

The State of African Cities 2018

The geography of African investment



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The official citation for this report is: UN-Habitat and IHS-Erasmus University Rotterdam (2018) "The State of African Cities 2018: The geography of African investment." (Wall R.S., Maseland J., Rochell K. and Spaliviero M). United Nations Human Settlements Programme (UN-Habitat).

HS Number: HS/053/18

ISBN Number (Volume): 978-92-1-132807-3

ISBN Number (Series): 978-92-1-133397-8

All photos courtesy of Dreamstime.com other than pages 28, 39, and 183

Cover image: Levering and Wall, 2017

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Acknowledgements

In an effort to review in detail the conditions, trends and effects of foreign direct investment on urban development across the African continent, *The State of African Cities 2018* report involved a large number of international organizations, academic institutions and individual experts.

The report was conceived and produced through a cooperation between the Institute for Housing and Urban Development Studies (IHS) at the Erasmus University Rotterdam (responsible as lead institution for the research) and UN-Habitat (responsible for overall coordination).

At UN-Habitat, the publication was coordinated by Joseph Maseland, Mathias Spalvieri, Katharina Rochell and Paula Pennanen-Rebeiro-Hargrave, who were assisted by Monica Gakindi and Jessica Mundia.

Lead author, Professor Dr. Ronald Wall, of IHS Erasmus University and the University of the Witwatersrand, Johannesburg, coordinated and carried out the research and the drafting of the chapters.

General studies were developed by Ronald Wall (*The Economic Geography of African FDI*) and Canfei He and Shengjun Zhu (*China's Foreign Direct Investment into Africa*).

Thematic studies were prepared by Rupinder Kaur, Ronald Wall and Jan Fransen (*The Impact of FDI on Income Inequality in Africa*); Ronald Wall, Poonam Mehta and Rupinder Kaur (*Impact of Foreign Direct Investment on Employment in Africa*); Addisu Lashitew and Ronald Wall (*Do Sub-Saharan Cities with Lower Labour Costs Attract Greater FDI Inflows?*); Ronald Wall, Dorcas Nyamai and Colin McAweeney (*Determinants of Foreign Direct Investment into Africa's Knowledge-based Industries*); Ronald Wall, Lynda Bitrus Elesa and Taslim Alade (*Infrastructure Networks and Foreign Direct Investment*); Max van Gils, Jeroen van Haaren and Ronald Wall (*The Attraction of Direct Greenfield Foreign Real Estate Investment into Sub-Saharan Africa*); Ronald Wall, Dorcas Nyamai and Akua Asubonteng (*FDI and the African Food Security Paradox*); Ronald Wall, Stelios Grafikos, Alberto Gianoli and Spiros Stavropoulos (*Policy Instruments for attracting FDI in Renewable Energy*); Ronald Wall and Spiros Stavropoulos (*Smart Cities Within World City Networks*); and Ronald Wall, Dorcas Nyamai and Meera Malegaonkar (*The Effect of Green Competitiveness on FDI*).

Case studies were prepared by Wits University researchers Umakrishnan Kollamparambil and Rubina Jogee (*Johannesburg: Interlinked Narratives and Investment by Foreign Firms*); Cairo University researchers Alia El Mahdi, Anwar El Nakeeb and Dalia Barakat (*Cairo: A Vibrant Investment City*); independent researcher Rodrigue Majoie ABO (*Foreign Direct Investment in the Abidjan-Lagos Corridor*); and Frederick Golooba-Mutебi (*Foreign Direct Investment in Kigali City*).

The appendix studies were written by Arthur Minsat and Thang Nguyen of the OECD Development Centre (*Foreign Direct Investment into African Cities: Insights from African Economic Outlook 2016 and 2017*); and Lucia Gómez, Ronald Wall and Päivi Oinas (*Foreign Investments in the Peripheral Global South*).

In preparation of the case studies, local government partners were consulted in various meetings in May and June 2017. UN-Habitat and IHS are grateful to Ravi Naidoo, Tom Scott, Aloysius Bongwa, Alia El Mahdi and Frederick Golooba-Mutebi for their time and support to the project.

Thanks are due to Graeme Harrison of Oxford Economics for preliminary forecasting research and early conceptualizations of the project.

A review process involved an Advisory Board meeting organized and hosted by UN-Habitat from 17-18 May 2017. Valuable insights and guidance to the finalization of the report were given by high-level interdisciplinary experts. The Board was chaired by Alioune Badiane, Director (Rtd) Programme Division UN-Habitat, Co-President ICCCASU Ottawa Canada and President of The Urban Think Tank Africa –TUTTA.

The following Board members attended the meeting: William Asiko, Chief Executive Officer, The Investment Climate Facility for Africa; Edlam Yemeru, Chief, Urbanization Section, UNECA; Alioune Badiane, Director (Rtd), Programme Division, UN-Habitat; Le-Yin Zhang, Senior Lecturer and Director of MSc in Urban Economic Development at the Bartlett Development Planning Unit, University College London (UCL); and David Thomas, Gender Equality Unit, UN-Habitat. Board members Tom Scott, Chief Economist, City of Johannesburg and Gulelat Kebede, a lecturer and researcher on urbanization and economic development, submitted their detailed comments in writing. Further meeting participants were Ronald Wall, Joseph Maseland, Mathias Spaliviero, Katharina Rochell and Jessica Mundia.

A subsequent teleconference meeting took place in mid-2017 with the African Development Bank which included Stefan Atchia, Saloua Sehili, Anna Okola, Aymen Ali, Alice Nabalamba and Ronald Wall. The most valuable remarks by the Bank were taken into account in the finalization of the report.

We would also like to recognize the following people for their contribution or support during the various phases of the project: Kees van Rooijen, Carley Pennink, Jan Fransen, Aloysius Bongwa, Gerjan van Zoest, Bert van Kooij, Imraan Valodia, Jannie Rossouw, David Makhura, Ravi Naidoo, Tom Scott, Jaap Rozema, Mahlet Yilema, Giulia Gorjux, Koen Rutten, Amadou Oumarou, Petra van der Stoel-van Dijk, Marina Salimgareeva, Monserrat Budding-Polo Ballinas, Nigel Browne, Rene van der Zwet, Claudio Acioly, Alioune Badiane, Carmel Ferris, Adam Habib, Ian Jandrell, Sharon Welsh, George Sotiropoulos, Ana Bilska, Eunice Li, Alexandra Tsatsou, Canfei He, Shengjun Zhu (both of Peking University), Herman Mashaba, Leah Ruth Knott, Tembeka Mhlekwa, Peter Plank, Warren Murray, Sean Durkan and Edmund Batley. Thank you also to Lei Qu, Lois Wall, Phoenix Wall and Xavier Wall for their support.

PFD Media Group was responsible for the editing and proofing in English, the translation into French and the layout and design of the report.

The report could not have been realized without the generous financial support of the Department for International Development (DFID), the African Development Bank and the Government of Norway.

We want to particularly thank fDi Markets (Financial Times), Bureau van Dijk (ORBIS), Euromonitor International (Passport), Analyse Africa (Financial Times), African Business Magazine (2017), Zephyr Database, IHS Global Insight data, City of Johannesburg shapefile maps, Peking University for providing data on Chinese investments, and the authors who provided data from the Global Competitiveness Reports (World Economic Forum).

Foreword

UN-Habitat



This *State of African Cities 2018* report is the fourth publication on Africa in UN-Habitat's Regional State of the Cities report series. It follows a first report, published in 2008, that benchmarked urban issues in Africa. The subsequent 2010 and 2014 publications revealed that Africa should identify its own form of urbanism, rather than following the urban paradigms of the advanced economies in the 1950s and 1960s. Instead, African cities need to adjust to the very different realities of the early 21st century.

This report differs from the traditional series and is not about urban planning. It follows the Addis Ababa Action Plan of Financing by seeking to outline how Africa can consider financing its development strategy through foreign direct investment (FDI) in African cities.

In seeking to address how to boost African urban economies, the report sheds light on how to foster the

urban dimension of Africa's structural transformation with industrialization as the main vehicle for inclusive growth.

The research conducted for this report is highly empirical, rigorously evidence-based and provides never-before seen data and information. It links urbanization to sustainable national development by providing credible options for poverty and unemployment alleviation, highlighting the role of FDI in creating new economic activities, and the contribution of partnerships between the public and private sectors to urban investment and the creation of decent jobs.

At the same time, the report shows that FDI can exacerbate inequality unless governments harness it correctly. In this regard, the report critically considers the benefits of FDI into job-rich and higher productivity sectors (e.g. IT and manufacturing) compared to capital intensive sectors with limited value addition (e.g. resources). The report also shows that African governments need to connect FDI attraction to sustainable urbanisation by underpinning it with robust national urban policies, urban planning, and financial and legal systems.

I have no doubt that this report will make an important contribution to our understanding of the current and potential economic role of cities in African sustainable development by providing a perspective on the implementation of the New Urban Agenda.

Finally, I would like to commend the Institute of Housing Studies of the Erasmus University of Rotterdam and the Witwatersrand University of Johannesburg for leading the research. I would also like to thank the UK's Department for International Development (DFID) and the African Development Bank (AfDB) for their financial sponsorship and intellectual input. In addition, I would like to thank the Government of Norway for its long-term support to the Regional State of the Cities report series.

Maimunah Mohd Sharif
Executive Director of UN-Habitat

Foreword

IHS-Erasmus University Rotterdam



Several years ago, I attended an IHS graduation ceremony in Nairobi, together with Professor Ronald Wall who gave a keynote speech at the event on foreign direct investment (FDI) flows into global and African cities. The presentation was enthusiastically received by Mr. Alioune Badiane, who at that time was the UN-Habitat Head of Projects and who initiated the idea of developing a State of African Cities report, on the position of African cities within international investment flows. The idea was welcomed by Dr. Jos Maseland, the developer of the UN-Habitat State of African Cities Report series, and Professor Wall, economic geographer at the IHS-Erasmus University Rotterdam and Wits University Johannesburg. The report was further complemented by the work of Katharina Rochell and Mathias Spaliviero.

I would therefore like to commend UN-Habitat and IHS-Erasmus University for a very successful partnership,

and especially the core team mentioned above for developing a very timely and important global report. Besides this, I also commend the many other collaborators and researchers at UN-Habitat, IHS-Erasmus University and other universities and institutions, who have contributed to this report. I am also pleased to state that more than half of the researchers of this report are of African origin, an encouraging development which I strongly endorse.

The advancement of African cities is not only important for the continent's future, but arguably for the entire world. For this reason, the report's studies have explored African cities as integral components in an evolving world system. The analyses explore the effects of past FDI on different African locations e.g. inequality, employment and food security, as well as the factors desirable to make African cities more attractive to future investors e.g. good governance, infrastructure and regional integration.

The report shows that although Africa receives a modest share of global FDI, it has the second highest investment growth rate, when compared to other world regions. Much of this growth is triggered by Africa's rapid urbanization and modernization, and it is therefore a continent of great developmental opportunity. However, this will require trustworthy, equitable and sustainable partnerships between local and regional stakeholders and foreign firms. Once this is established, the integration of African cities into the global economic network will expectedly boom. However, this cannot only be at the service of growth but more importantly must also promote social, economic and environmental inclusion. To understand this complexity will require a lot of research, of which this report contributes a modest part. We therefore hope that the results of the report inspire future collaborations to take this endeavour further.

Kees van Rooijen

Director of the Institute of Housing and Urban Studies,
Erasmus University Rotterdam

Foreword

African Development Bank



It is with great pleasure that I introduce this report produced by UN-Habitat, and co-financed by the African Development Bank, using extensive research by the Witwatersrand University of Johannesburg and the Institute of Housing Studies of the Erasmus University of Rotterdam (IHS-Erasmus).

With a population of over 1.2 billion and a combined GDP of USD3.4 trillion, Africa is an attractive destination for foreign direct investment (FDI), which amounted to USD56.5 billion in 2016. Moreover, Africa's rapidly growing population is increasingly living in cities with the continent's urban population expected to reach 50% by 2030, up from 36% in 2016. Benefiting from economies of scale and agglomeration, African cities are becoming the drivers of economic growth and productivity.

The report looks at how Africa can finance its development strategy through FDI in its cities. It argues

that African countries should find the best trajectories for their development, taking into account their country and city-specific locational advantages in attracting public and private investment. Specifically, the report discusses three main types of FDI: resource seeking, market seeking and efficiency seeking. Cities play a major role especially in the latter two, and African cities should position themselves to seize the many opportunities available in the global economy.

Many factors are shaping the future of African cities. I will mention three here.

First, a growing middle class with high purchasing power is driving expansion in addressable markets that can be exploited by market-seeking FDI. The Bank is ready to help finance such investments, with a special focus on intra-African investments that contribute to continental integration.

Second, improving cities' connectivity by air, land, and sea as well as urban mobility will be crucial for attracting FDI. Cities are the gateways to countries, to economic regions and corridors. However, large infrastructure deficits in African cities are preventing them from fully reaping the benefits of agglomeration. Over the past ten years, the Bank has invested more than USD35 billion in infrastructure and will continue to support public and private infrastructure including ports and airports to connect cities to the global economy.

Third, coordination between national and city institutions and between public authorities and the private sector needs to be improved to help cities become stronger magnets for FDI.

I would like to take this opportunity to thank all the partners and researchers involved in this important report. I am especially grateful to the Department for International Development (DFID) as co-sponsor, UN-Habitat for managing the production under its State of the Cities reports series, and IHS-Erasmus and the Witwatersrand University for their dedicated work on the ground.

Pierre Guislain

Vice-President, Private Sector, Infrastructure & Industrialization, African Development Bank

Introduction

The current report follows three earlier State of African Cities reports produced by UN-Habitat in 2008, 2010 and 2014. The 2008 report was a benchmarking exercise reviewing urban and housing conditions in Africa. It told of unprecedented forthcoming urban growth which, at the time of publication, was criticized as ‘alarmist’, but has since proven quite accurate. Given the prevailing conditions in Northern Africa, the 2008 report also warned of political unrest before the Arab Spring unfolded about three years later. The report showed that, in many respects, Africa was not ready for rapidly advancing urban growth, notably in terms of its institutional arrangements and funding priorities, because the continent then still had a sizable rural population majority. The 2010 report delved deeper into the challenges of urban management shortfalls, poverty and mushrooming urban informal settlements (slums). Problematic access to urban land was identified and analyzed as one of the many aspects of deep poverty and socio-economic inequality in Africa.

The 2014 report focused on the social, economic, political, environmental and other transformations unfolding in Africa. It concluded that replicating the urban development examples of the world’s advanced economies of the 1950s and 1960s was no longer a credible sustainable development path. Rather, countries and cities should foster an altogether new ‘African urbanism’ to address the multiple social, political, economic and environmental realities associated with rapid urban population growth. It also showed that there is no ‘one-size-fits-all’ solution.

This fourth report in UN-Habitat’s State of African Cities series parallels the Addis Ababa Action Plan of Financing by seeking to outline how Africa can consider financing its development strategy through foreign direct investment (FDI) in African cities. A common trait today is Africa’s massive investment gap in domestic and urban economies, infrastructure and human resources. The report argues that African nations should search for the best trajectories for their own development, taking into account their country and city-specific locational advantages and disadvantages in attracting more and more equitable international investments from public and

private sources. This should be done with the overarching goal of accelerating Africa’s structural transformation—a large scale shift from growth dominated by the primary sector, to one led by manufacturing, service and knowledge-intensive industries.

The research conducted for this report has made a start by analyzing the determinants that define Africa’s current position with regard to global foreign direct investment flows. It explains the global geography of African investment, why Africa is receiving low FDI inflows, analyzes its relative investment attraction, and suggests strategies to enhance Africa’s global ranking in attracting investment. It further links urbanization to sustainable development by investigating the role of urban FDI in creating new economic activities and the contribution of partnerships between the public and private sectors in urban investment. It concludes that FDI, if guided wisely, can provide credible solutions to urban poverty and unemployment alleviation. At the same time, the report shows that FDI can exacerbate inequality if governments harness it indiscriminately. In line with Africa’s targets of structural transformation and shifting labour out of low-value activities, the report critically considers the benefits of FDI into job-rich and higher-productivity sectors such as IT and manufacturing compared to agriculture and capital-intensive sectors, such as the resources sector.

The report also shows that African governments need to connect FDI attraction to sustainable urbanization and urban policy development, by integrating it with national policies, planning, financial and legal systems, as well as domestic macro-economic policies.

The report consists of three sections.

Part A concerns general analyses and focuses on various aspects of FDI in Africa: structure, trends, forecasts, competitiveness, economic diversity, determinants and impact. Throughout Part A, attention is paid to the policy-sensitive implications for African countries and cities.

Part B, through thematic studies, looks in more detail at FDI. In the printed version we examine income inequality, employment and food security; and in the extended online version, there are also studies on labour



The 2008 State of African Cities report warned of political unrest before the Arab Spring unfolded three years later

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costs, knowledge-based industries, infrastructure, real estate, policy instruments, green competitiveness and smart cities.

Part C explores the FDI profiles of four African cities: Johannesburg and Cairo as Africa's main FDI-attracting agglomerations and investment gateways into the continent; and Abidjan and Kigali as much smaller but dynamic emerging FDI-attracting cities. The overall aim of this section is to analyze how and to what extent public policies can make cities more attractive investment destinations, and how to use FDI for improving economic development. For instance, the four city case studies reveal that cities need to intimately engage with scales of policy making beyond the local level. Urban agglomerations

are critically important for countries to become more attractive to investors given their capacity to diversify the type and nature of economic activities. Cities shape the economic performance of entire countries and regions and should therefore be viewed as constituent parts of regional economies of scale. In advancing the economic development of the African continent, while addressing the high levels of income inequality, unemployment and poverty, the five major African regions, within the remit of their respective regional organizations and the African Union, should work closely together to target different FDI sources worldwide. Attracting global FDI is highly competitive and regional cooperation is critical to boosting individual cities' and nations' negotiation strength.

Executive Summary

In recent years, especially after the 2008/9 financial crisis, there has been a steady increase in foreign direct investment (FDI) towards the Global South. This has been a welcome trend for Africa, not only because of its developmental challenges but also because of the generally limited availability and cost of domestic financing, which has persistently hampered African business. Nonetheless, despite a growing FDI influx, Africa's share of total world FDI volume remains small, at roughly 5%. This compares poorly to the continent's 15% share of global population and over 30% of world poverty. The current GDP per capita gap, relative to other world regions, is likely to widen if 'business as usual' is to continue.

There is a clear and pressing need for increasing foreign investment in Africa. Financial and policy interventions are needed that support Africa's emerging transformations and strengthen its already unfolding shift from FDI in the primary sector (resources), towards secondary and tertiary sectors (manufacturing, services and hi-tech). Such interventions would facilitate structural economic transformation and generate higher value-added economic activities. FDI is a key resource to expedite Africa's growth potential, since it promises to bring not only financial resources but also new technologies, knowledge and expertise. Investment promotes employment, productivity and competitiveness through entrepreneurship in investment destinations. Substantial private capital injections can, for instance, help close Africa's huge gap in physical infrastructure, improve the quality of the built environment, and make the continent a more attractive destination for global FDI.

Key findings

Cities perform a quintessential role in Africa's evolving structural transformation because urban environments facilitate growth in critical economic sectors. Cities can accommodate industries that have already demonstrated sustained economic growth from 2003 to 2016, a trend which is anticipated to continue. African cities can boost their economies by positioning themselves as desirable destinations for multinational firms' headquarters, sub-offices and other activities, and thereby become important nodes in corporate strategies. However, it is pertinent that,

as potential FDI destinations, cities should understand the rationales of investors to expand business to foreign countries. In the age of globalization and the emerging fourth industrial revolution, the role of African cities and urbanization must reverberate in the long-term economic, spatial and demographic planning of the continent. This role of cities is expressed in Agenda 2063 of the African Union, the United Nations' New Urban Agenda, UN-Habitat's State of African Cities reports and the World Bank's *Africa's Cities* report, among others.

Under conditions of rapid urbanization, African cities bring both problems and solutions in respect of the incidence of urban poverty. In the absence of commensurate economic growth, in urban and rural economies alike, urban poverty has become proportional to the rate of urban-rural migration and natural urban growth. Conversely, urban economic development can lift millions out of poverty, as it has done in East Asia over the past three decades, with African cities becoming hubs of productivity that accelerate economic growth and general well-being. For this to happen, African cities need to seize a more prominent position in the world economy, by enhancing their accessibility, connectivity, markets and urban attractiveness. They also need to rapidly build workers' skills and productive capacity, available

African cities need to seize a more prominent position in the world economy, by enhancing their accessibility, connectivity, markets and urban attractiveness

knowledge and technology levels, as well as inclusive institutional and business capacity. FDI can serve as an important means to kick-start this.

Despite its relatively low ability to attract FDI in comparison to other continents, the recent rate of FDI growth into Africa is the second highest in the world. While this is partly explained by the low investment base from which the continent started, it does demonstrate



Key aims of stimulating investment into Africa are to decrease the proliferation of informal settlements and secure urban food, water and energy supplies

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a growing interaction between Africa and the global economy. Indeed, FDI is now an important source of finance, and represents roughly a third of foreign financial sources flowing into the continent.

Furthermore, the better a city is globally and regionally connected to businesses and cities around the world, the more FDI it will attract in future. Cities have stronger economies when they facilitate international trade and connect to diverse economic clusters in the world, thereby boosting their own local markets and industries. African cities should develop strategies to become key nodes for production, services and knowledge in the global marketplace. Spatial policies such as industrial zoning are conducive to this because these help create opportunities to tie often peripheral parts of the city to the rest. These policies also stimulate the development of physical infrastructure and social capital, while ICT promotion supports improved urban accessibility and connectivity. Key aims should be to facilitate urban employment and poverty reduction, to decrease the proliferation of urban informal settlements (slums) and to secure critical urban food, water and energy supplies. Furthermore, in the

context of food security, Africa's urban revolution will arguably have to run parallel to an agricultural revolution.

However, FDI is neither a panacea, nor the ultimate answer to Africa's development, since it has both positive and less helpful effects. Commonly recognised negative aspects of FDI in developing economies are its potential for crowding-out local businesses; its tendency to be consumption and not production driven; the fact that it is generally directed towards production for non-African markets; and its adverse effect on wage inequality and the development of indigenous skills in certain sectors. Therefore, careful choices should be made by cities in their pursuit of new and additional FDI, towards inclusive economic growth.

Analysis of FDI into Africa

FDI structure

Western Europe is the largest investor in Africa, followed by Asia and then North America. Geographic proximity is an important locational preference for multinational firms in Africa, most likely because of cultural and language similarities, and because proximity lowers the transaction

costs of foreign ventures. There are four major urban FDI destinations in Africa: Cairo in Northern Africa, Lagos in Western Africa, Johannesburg in Southern Africa and Nairobi in Eastern Africa. Central Africa lags behind the other regions in terms of FDI, although Kigali—situated in Eastern Africa, but bordering the central region—shows strong upward growth in attracting FDI. Only a few African cities e.g. Cairo, Lagos and Johannesburg, hold the financial power to also be sources of FDI (outward investors), that is, there are firms with headquarters in these cities that invest abroad, either within or beyond Africa. These cities therefore function as key global FDI gateways within the African continent. Furthermore, these cities can attract foreign investors and offer them a more diversified business climate, including infrastructure, and larger stocks of human capital and consumer markets.

FDI trends

Africa has the second highest exponential growth of inward FDI among world regions and is clearly an emerging global FDI destination. However, evidence of negative investment growth in Northern Africa (commonly perceived as the best performing region) puts African FDI growth into perspective. Whereas major FDI destination countries such as Nigeria and South Africa are still experiencing moderate growth, negative investment growth is observed in other major FDI destination countries e.g. Egypt, which has high investment volume but declining growth. Furthermore, gateway cities are seen to attract FDI from various places around the world, irrespective of geographic distance, or the historic legacy. This report shows that FDI hubs such as Johannesburg, Cairo, Lagos, and Nairobi are noteworthy players in global FDI markets (in terms of volume), with emergent FDI cities like Abidjan and Kigali also doing well (in terms of growth).

Of the four aggregate industrial sectors explored in this report (i.e. manufacturing, services, hi-tech and resources), FDI in hi-tech and manufacturing offers both superior FDI growth rates and the highest number of direct jobs. Indeed, the four city studies in Part C show that these cities are key investment hubs for hi-tech and manufacturing, due to their ability to absorb new technology, the availability of highly skilled human capital and their institutional governance capacity. In many cases, these flows of FDI have reduced income inequality and generated jobs. While hi-tech has the highest FDI growth rate, manufacturing FDI has the largest share of investment in Africa. Also it should be noted that the

hi-tech sector is closely linked to manufacturing FDI activities, stimulating backward and forward linkages between each other. Manufacturing FDI is currently the most important in terms of employment generation, although the hi-tech investment sector is catching up. Both sectors are shown to reduce income inequality, if local skills (absorptive capacity) and institutional qualities are adequately in place. The primary sector (agriculture and resource extraction) has shown negative FDI growth rates throughout the African continent.

FDI forecast

Overall, FDI growth in African countries and regions is likely to continue over the next few years, although it is uncertain whether this growth will be sustainable. Possibly because of the 'lock-in' of public investment in resources, FDI diversification is held back and more urban-oriented sectors are being frustrated. Therefore, attracting FDI in manufacturing, service, hi-tech and knowledge industries should complement and enhance investments in agriculture and extractive industries. This means investing in cities that promote investment growth sectors like ICT, food, real estate and healthcare, which have done particularly well.

Western and Eastern Africa are likely to experience sustained investment growth. In Western Africa, manufacturing and hi-tech are experiencing the highest growth rates and, indeed, FDI has already reduced wage inequality in this region. Manufacturing will attract the most FDI in the coming years. Nigeria and Côte d'Ivoire will particularly see growth. In Eastern Africa, service investments will see the highest growth rates. Here too, manufacturing investments will grow well, and Kenya is set to experience high growth. Northern Africa can expect stability of inward FDI. Services will replace manufacturing as the most important activity for attracting FDI in this region. Egypt and Morocco will keep their frontline position in attracting investment and regional economic growth. The economic development of Central Africa remains modest in the foreseeable future. Inward FDI in manufacturing and services is projected to remain at current levels, while inward FDI in resources will continue to decline. Rwanda, straddling Central and Eastern Africa, is projected to experience rapid growth and is an example of best practice in the region.

FDI determinants

Inward FDI into Africa correlates positively with large urban populations (markets), trade openness, mobile



The case studies on Johannesburg (above) and Cairo show that urban agglomeration is significant in attracting FDI

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phone subscriptions, internet bandwidth and full electricity supply, amongst other factors. Low wages are shown to not be the key motive for multinational firms to venture abroad. Rather, they seek cities and countries that sustain large populations, good standards of living, sound financial markets, and competition in terms of producing and marketing exclusive products.

The case studies of Cairo and Johannesburg show that urban agglomeration is significant in attracting FDI. Large urban concentrations, with a diversified workforce, provide the competences that multinational firms seek. That is particularly important for knowledge-based FDI. It is also shown that African capital cities hold an advantage over other cities, due to their above-average skilled workforces and technological readiness, coupled with adequate administration (i.e. land use rights), and the availability of relevant information (government agencies, interest groups, firms). These factors combined with high-quality ICT and lower transaction costs enhance FDI attraction for multinationals.

Such firms are attracted to destinations with large domestic markets because these provide higher returns on investment, through a more efficient use of resources. Furthermore, these destinations generally perform better in terms of gender parity across industrial sectors. Compared to other continents, women in Africa are underrepresented in formal sectors that are anticipated to become highly significant. A further determinant for inward FDI is the trustworthiness of public authorities and associated civic stability and institutional safeguarding of investor interests (such as the enforcement of property rights). Access to local credit is similarly important for attracting FDI because it strengthens private-sector initiatives. Finally, mature democracies, which are generally more business transparent and open to inclusive growth, perform well in attracting FDI, with presidential democracies performing better than parliamentary ones. In light of this, our research shows that the existence of presidential systems improves the

reliability and accountability of public institutions, encouraging further FDI.

Multinational firms have various strategic motives to expand their operations abroad. An expected growth of domestic markets and geographic proximity to markets or customers in the destination environment are key motives for firms across the globe to expand into Africa, as are a wide number of other incentives including: the availability of skilled workers, regulations and business climate (related to trustworthiness); advanced infrastructure and logistics; proximity to local industrial clusters (e.g manufacturing or hi-tech); the presence of effective investment promotion agencies (IPAs) and other forms of government support; good credit ratings by international agencies; smart procurement strategies; availability of natural and human resources; lower costs (i.e. lower overhead); cultural attractiveness; quality of life; availability of local technology and innovation; and proximity to innovative local universities and researchers.

FDI impact

All FDI sectors have a positive impact on gross national income (GNI) per capita, except the resources sector. This shows that public authorities can foster higher GNI per capita by accommodating inward FDI in manufacturing, services and hi-tech. An often-overlooked impact area is inequality in income distribution. Our studies show that FDI's impact on wage inequality is mediated through local conditions such as the human capacity to absorb new technology, the availability of human capital, the presence of local technology, and the quality of governmental and private institutions.

At the sectoral level, hi-tech and manufacturing FDI are shown to be the most important in reducing income inequality, while resources and services FDI do not have a significant impact. This means that cities will only experience a decrease in income inequality, when locally available technological skills are strengthened, adequate ICT infrastructure is provided, a robust and reliable electricity network is in place, and good-quality local firms are available.

Institutional capacity showed mixed results in resolving income inequality. On the one hand, strength in auditing and reporting tends to reduce firm-level corruption and protects workers leading to lower income inequality. On the other hand, intellectual property rights potentially block the diffusion of new technology. In such situations, FDI benefits only a small group of highly skilled beneficiaries.

Manufacturing FDI is shown to be the most important sector for employment generation, since it generates the highest number of direct jobs. Consequently, attracting and generating manufacturing jobs is crucial for the economic transformation of Africa.

Although Africa receives a large share of FDI in the food sector, this does not contribute to food security in the continent since food FDI is generally geared towards the export of raw agricultural products, rather than value addition and serving local markets. Furthermore, this type of FDI is mainly extractive and does not generate sufficient jobs.

China's investments in Africa

China's relationship with Africa has changed from one driven by Mao Zedong's ideology that sought to promote and support anti-colonial movements towards one of international trade, development assistance and more recent interventions, through Chinese FDI. In this context, there are polarised views on China's investment in Africa,

Manufacturing FDI is shown to be the most important sector for employment generation, since it generates the highest number of direct jobs

with some asserting that it is exploitative, merely seeking resources, or even an outright form of neo-colonialism. In cooperation with Peking University, and based on the latest Chinese data, the investment trends of Chinese State and non-State Operated Enterprises (SOEs and non-SOEs) were analyzed for this report.

The studies show that Chinese investment in Africa is broad and complex and that it may be too early for sweeping and generalized judgements. Through a range of examples, the research shows that Chinese investment in Africa is diverse and the investment motives appear to be market-oriented (seeking new markets, profit and cheap labour) alongside the exploration for resources. An interesting finding is that in contrast to conventional FDI theory, Chinese investment in Africa tends to focus on countries with lower political stability so as to explore underinvested states, as well as to avoid competition with investors from advanced economies.

The research shows that Chinese firms have made contributions to African development, particularly in the energy and infrastructure sectors, with the incentive of creating more attractive investment environments and to stake a claim in the economic development of the continent. However, Chinese involvement in Africa mainly focuses on agriculture and the extractive industries, with Chinese multinational firms being particularly export-driven. The results show that benefits are reaped locally through joint ventures, profit sharing with African partners, employment creation, the establishment of training centres and through knowledge and skills transfer. Nevertheless, Chinese firms have a mixed reputation in Africa.

Chinese investment has contributed to social development by generating employment. Yet, caution is warranted on the benefits extended to the local workforce. In many cases, work conditions are questionable, high-level jobs under Chinese investment are mostly occupied by Chinese individuals, while insufficient attention is being paid to corporate social responsibility and environmental matters. The overriding focus of Chinese investment on expedience and profits tends to overlook the interests of local communities.

This is explained to some extent by the fact that Chinese state-owned enterprises (SOEs) and non-SOEs import the customs and standards of corporate culture from China. At the same time, Chinese firms are learning as they go along. But the revealing finding that “China is ready for Africa, but Africa is not ready for China” indicates that this is an area where African governmental policy needs to become proactively developed not only for individual countries but also across regions, and possibly the entire continent.

1. Recommendations

- Public authorities can shape the right kind of social, economic, environmental and policy conditions for an attractive investment climate. However, there is a need for further evidence on the impact of economic policy to help boost the growth potential of Africa. Evidence-based policies should, therefore, consider the diverse impacts of different sectors of FDI on income inequality, direct employment and the quality of employment.
- Economic diversification increases the resilience of FDI destinations. A diversified sectoral landscape can better withstand economic shocks. The most advanced urban economies proliferate in as many secondary and



All FDI sectors have a positive impact on gross national income per capita except for the resources sector



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tertiary sectors as possible and attract FDI from sources across the world. A higher diversity of FDI sectors and intra-sectoral specialization in particular, will allow for greater economic competitiveness and more urban economic resilience. Competition for the same sources of inward FDI into Africa could be rendered zero sum.

- Africa hosts a number of emergent and therefore still relatively fragile FDI destinations. Policy makers should ensure forethought in economic diversification and coordinate collective action amongst FDI destinations, so as to accommodate regional interests in Africa. This implies that economic diversification should go hand-in-hand with continental and regional specialization and the complementary division of labour across geographies.

The most advanced urban economies proliferate in as many secondary and tertiary sectors as possible and attract FDI from sources across the world

- The resources industry is waning in both economic and social significance. Resources fetch lower prices on global markets, than has previously been the case. Direct employment in resource FDI has dropped in tandem with the overall recent decline in FDI. Furthermore, resources generate low added-value for African countries. Resources FDI is at odds with the increasingly important role of cities, in developing robust urban economies, where FDI growth in manufacturing, services and hi-tech takes precedence.
- African countries should particularly focus on attracting investment in labour-intensive manufacturing. Manufacturing can play an important role in African economic diversification, through its backward and forward linkages to other sectors, and by generating a relatively larger number of jobs.

City-level recommendations

- Cities have little to offer to multinational firms involved in primary resources extraction, notably so when food crops or extracted bulk are exported without further processing or refining (local value

addition). In contrast, urban-based investments concentrate on the relatively young and above-average educated working class, the geographic proximity between urban manufacturers and their offset markets, as well as the critical mass needed for service-oriented firms to have a good return on investment.

- Cities should have a relatively high degree of autonomy in shaping their investment environment by accommodating the required locational preferences of multinational firms. At the urban level, African public authorities can establish spatial policies that accommodate the various sectors that multinational firms seek. Such sectors are, amongst others, industrial machinery, warehousing and storage, renewable energy, food, healthcare, communications and real estate. This requires differentiated spatial policies, depending on the type of FDI attracted. For instance, warehousing and storage are likely to thrive in industrial zones with low rents and where accessibility is an important precondition for firms seeking improved efficiency.
- Local authorities should focus on FDI sectors that accommodate economic, social and environmental development (growth and inclusiveness). Economic diversification is key to a balanced trade-off between these categories. For instance, a favourable local investment climate should stimulate capital accumulation in the food sector, in such a way that it sustains local employment, as well as links to related sectors such as ICT, logistics, water and energy.
- To address unemployment, poverty and inequality, hi-tech FDI is a promising growth sector. Urban planners should create technological hubs for hi-tech firms to cluster together and gain agglomeration and economy of scale benefits. Hi-tech has a positive impact on income distribution and inequality, when FDI destinations are endowed with adequate absorptive capacity and better quality institutions. Cities should invest in local technologies and infrastructure to increase their absorptive capacity of foreign technology and enhance the quality of their institutions by reducing corruption and improving transparency and trustworthiness.
- Reliable mobile networks and internet access attract knowledge-based FDI and are important for the growth of the hi-tech sector. Emphasis on inclusive

technologies and education also importantly requires the promotion of gender parity in the labour market, and public authorities should ensure the promotion of women in all formal sectors of employment. Furthermore, where human capital (i.e. tertiary education) is concentrated in the higher echelons of society, care should be taken that investment does not increase inequality.

- Manufacturing, the largest industrial class, should focus on cities as its geographic priority. This should build domestic markets and allow for catching up with global commodity markets. Manufacturing should add value to domestic commodity markets, and promote strong backward and forward linkages with the primary and tertiary sectors.
- New technologies are increasingly fusing our physical, digital and biological worlds, impacting all disciplines, economies and industries. With emerging “fourth generation technologies”, multinationals will likely produce more at home again (e.g. through 3D printing). Because African cities are geared towards producing for foreign markets, it will become increasingly important for them to embrace new technologies and become more geared towards advancing their own local high-tech manufacturing and providing their domestic markets by themselves. This is especially important if such cities do not wish to perpetuate their dependence on high-tech goods produced by technologically more advanced economies.
- To support sustainable social development, cities should know when to invest and in which sectors. In this light, the interface between GDP, FDI and income inequality should inspire local policy makers to make the right choices in shaping their urban investment climate. Cities should only target hi-tech FDI, when it is proved to decrease, rather than increase, income inequality.
- To build a robust domestic market, it is imperative that local authorities build on the sectors in which they already have a comparative advantage—or in related sectors that strengthen existing ones. New FDI sources should be found that support domestic firms and enable them to more easily absorb and diffuse new technologies, knowledge and skills brought by multinational firms.

- The ‘Smart City’ concept is a new critical phenomenon in urban development, especially when cities want to expand their global reach. Smarter cities, in this report’s studies, reveal that they are more capable of attracting FDI from more and further destinations. City administrations can therefore set up Smart Procurement Agencies and Competition Commissions, for branding their city as an attractive ‘smart’ investment destination. In this context, it is not only imperative to develop smart cities in Africa but, more importantly, to establish a network (regional and international) of dedicated smart cities that collaborate and share beneficial information and data.
- Inward FDI into a smart city reinforces the financial capacity of city administrations to invest in infrastructure and public transportation systems, by integrating different modalities and functions

through ICT solutions. This improves accessibility between the urban core and the regional periphery, and lowers transaction costs for multinational firms. More importantly, city regions need to become more infrastructually connected and monitored e.g. through advanced roads, rail, IT, and city-region networks, so as to become better connected regionally and across the continent.

- Furthermore, one of the studies shows that the opening up of urban agglomerations to real estate FDI is necessary and requires reducing the often complex and stringent regulations that govern African urban planning, so as to facilitate and promote FDI in this sector.
- Cities that are part of a broader FDI destination, i.e. cities within development corridors, have an investment advantage (borrowed size). For instance,



Food FDI is generally geared to the export of raw agricultural products so it does not contribute to food security

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Johannesburg is part of a corridor that stretches all the way to Maputo (Mozambique). Investors are attracted to such urban FDI destinations because of the linkages to external industrial and agricultural hinterlands, as well as urban core and periphery constellations, which provide much larger access to consumer and labour markets. For instance, the case study of Abidjan demonstrates that this city receives more FDI when its public authorities invest into the West African coastal corridor, and connect better to e.g. Accra and Lagos, which are both major FDI hubs in Western Africa.

- Local policy makers should embrace the digital revolution since this can lower transaction costs for multinational firms operating in their city and corridor. By connecting FDI corridors with small and medium-sized towns and expanding road and rail networks, larger regions will open up and create an expanded market for domestic and foreign products alike. This also helps to expand the economic base of regional towns and can have the additional benefit of reducing population pressure on the larger cities, by spreading employment opportunities to small and medium-sized towns.

Country-level recommendations

- African countries should target investment in renewable energy as this sector generates a larger number of jobs when compared to the traditional energy sector, as well as promoting 'green growth'. Green-competitiveness fits well with compliance towards international carbon reduction targets and is increasingly becoming a concern for multinational firms too.
- Urban managers often consider rural-urban migration as undesirable because it boosts urban populations faster than institutions can cope. However, migrants with basic agricultural skills can be useful in peri-urban farming and food processing sectors, which can help address existing and future urban food insecurity through various forms of urban agriculture and horticulture. Moreover, rather than exporting rural agricultural output, crops can be processed in cities for domestic consumer markets, while utilizing migrant skills and promoting employment. In the report, analysis of FDI and its effect on food security reveals that local authorities must fulfill a catalytic function in attracting investments that improve food security.
- Cities can play a pivotal role in investment in food and food-related sectors (e.g. in manufacturing and food technology). Also, Part B of this report shows that the food sector generates employment. The policies formulated should seek to attract food firms that aim particularly at local markets, technology sharing, cooperation with local firms, economic inclusion and stronger participation of women in the local workforce so as to develop higher food security in African cities and regions. For cities, this can help to address the migration of poverty to cities and the mismatch between the skills of new arrivals, and existing jobs in urban sectors.
- Core and periphery transcend various spatial scales. Governments should therefore develop policy that assigns specific roles to cities e.g. the establishment of dedicated industrial sites and technology valleys. The ultimate goal is to build economies of scale through concerted efforts to utilize FDI.
- Geographic proximity is an important consideration for multinational firms to invest in Africa. Northern Africa receives most of its FDI from Europe and the Middle East, while FDI into Eastern Africa mostly originates from Asia. Countries should, therefore accommodate the locational preferences of multinational firms based on where most of their FDI originates from, so as to retain and strengthen their position as key destinations for investment.
- Inward FDI from China can bring new economic prospects for some African countries, particularly in the Central African region, if countries there manage to provide stronger democracies. Central Africa and also Rwanda and the near-landlocked DR of Congo can attract FDI from China by improving their locational factors and policies.
- Besides checking for absorptive capacity, human capital, levels of domestic technology and institutions, governments should be aware of other issues that affect the relationship between FDI and employment. These variables are, among others, population size, trade openness, and ICT - the latter representing knowledge transfer and information dissemination. Countries with large and well-connected populations (measured for instance by mobile phone subscriptions) are better able to create jobs from FDI. Every

sector requires a tailored approach, contingent on what multinational firms require in their foreign ventures. For instance, in the case of food FDI, governments should invest in agro-business that links up to manufacturing sectors, so that crops can be processed into food for domestic consumption.

Regional-level recommendations

- The five regions of Africa should fashion economies of scale to create an investor climate. Major hubs of FDI attraction are geographically spread across the continent: Cairo, Johannesburg, Lagos, increasingly also Abidjan and, to a lesser extent, Nairobi. In recent years, Kigali has emerged as a new investment gateway for (but not in) Central Africa and offers perspective to this FDI-underprivileged region. The gateway function is particularly pertinent for attracting knowledge-based FDI.

In recent years, Kigali has emerged as a new investment gateway for Central Africa and offers perspective to this FDI-underprivileged region

- Knowledge-based FDI destinations serve as gateways to subordinate FDI hubs in the region. Africa needs to invest in regional infrastructure, both physical and ICT, to boost the impact of this emergent FDI source.
- Regional policy makers should further strengthen interdependence between cities and countries in the FDI corridors. There is, for instance, a need for regional strategies of comparative advantage and complementarity between major urban hubs. The regional blocs should try to join forces in building a stronger intra-regional market for commodities. Better regional infrastructural interconnection combined with customs agreements is critical to achieving this.
- Since inward FDI correlates positively with trade, FDI destinations will expectedly become more attractive when regional trade barriers are lifted, particularly in the case of multinational firms seeking new markets. Regional integration is therefore a good proxy for FDI competitiveness.

- Linking cities, countries and regions through road and rail transportation, will expand market size and is one of the most important factors for attracting FDI. It is therefore especially important for landlocked countries to connect with port cities, through dense road and rail networks.

Continental-level recommendations

- The African Union, as the designated body to establish policy coordination between regional economic blocs and their members, should facilitate collective action on investing in manufacturing, services and hi-tech. Manufacturing has economic spin-offs across the entire continent. Services mark a high growth category, although the economic spin-offs are concentrated in a few countries only. Policy can ensure that benefits are more evenly distributed. Hi-tech is a promising economic growth category, as well as a necessary investment category for Africa to close its technological capability gap.
- The report shows that Africa is already a significant investor in itself and is strongly encouraging investments between cities and countries within the continent. To improve this, it is imperative that major African urban hubs (investment gateways) try to compete less with one another but rather seek diversification to become more complementary, based on their specific locational advantages, interregional cooperation, and the preferences of investors. One way to improve collaboration between African cities is to ensure that cities and regions target different FDI sources and, in some cases, explore different sectors of investment. The African Union could set out a strategy to coordinate FDI attraction efforts across the continent.
- A diversification of economic sectors is needed for FDI destination cities, so as to improve their position as regional and international investment hubs. Economic diversification also increases the resilience of cities against volatile global investment changes across sectors.
- An obstacle experienced in developing this report but common to many studies on Africa is the extreme paucity of data, especially at the city level, or lower levels of aggregation. There is a serious need for high-quality, comparative and accessible data (quantitative and qualitative). Urban, regional and continental policy can only be developed in an



Reliable mobile networks and internet access are key to attracting knowledge-based FDI and for the growth of the hi-tech sector

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informed manner when based on scientific evidence. It is therefore imperative that African continental, regional, national and municipal institutions invest in and support accessible high-level data collection, as well as stimulating advanced analytical methods and technologies, enabling African researchers in particular to carry out appropriate analysis.

- African countries' comparatively weak negotiation position vis-à-vis the world's powerful regional political and economic blocs and multinational corporations, is to a large extent attributable to a lack of cooperation amongst African nations, due to internally divided approaches, language and cultural barriers. This has inevitably created the current scarcity of regional infrastructure, restrictions in transboundary movement of people, goods and finance, as well as too few customs and migration agreements, which are all critical components in developing the continent's potential FDI attraction. These negative traits forfeit the powers that can be found in coordinated and common approaches.
- There is therefore a need for the AU, Africa's sub-regional cooperation associations, and individual nations to overcome major hindrances to 'acting as one', even though the associated political, economic and institutional challenges to be overcome are significant. Early progress in this respect is critical to creating optimal investment environments in the interest of all African nations and their cities.

Global-level recommendations

- International organizations can expedite investments into Africa by, for instance, financing regional infrastructure that helps improve the free flow of goods, finance and labour across African regions. Every African sub-region has at least one major urban and economic development corridor and the international community could help boost the further development of infrastructure connections between major FDI hubs and other cities within and among the African sub-regions. Gender parity in participation in the labour market is important for attracting FDI in secondary and tertiary sectors. Africa therefore needs to foster greater gender parity and the international community can assist with this. While African women represent a relatively high share of the total workforce, they remain relatively underrepresented in the very formal economic sectors expected to grow over the coming

Food security coincides with investment in technologies, innovation, logistics and services in the food sector in all African countries and cities

decades. Equal participation of men and women adds knowledge, skills and value to the labour market.

- Food insecurity is an often-underestimated problem emerging on the African horizon. It plays out at several scales. Rural, urban, regional and global forces meet at the frontier of feeding Africa's urban and rural millions through investment. International organizations should make African food security, and urban food security in general, a key priority.
- Africa has huge food-producing potential with highly arable land and 60% unemployed youth. But Africa still needs an 'agricultural revolution', which should go hand-in-hand with its rapid urbanization. The current negative stigma of poverty and subsistence agriculture needs to be changed into one of medium and high-technology food production. Besides feeding itself, Africa could create a surplus to feed other parts of the world, stimulating much needed export revenues, rather than the currently prevailing international food exports and land exploitation. This will require a new strategy for food FDI in Africa and partnerships with local authorities to stimulate capacity building, new technologies and job creation through industrial food production.
- Food security coincides with investment in technologies, innovation, logistics and services in the food sector in all African countries and cities. Urban FDI hubs should serve as the vehicle for attracting FDI from different sources. This can make cities robust and resilient to international market shocks. International organizations could help promote the governance required to attract multinational firms in the food sector. With the right policy choices, Africa may not only be able to achieve internal food security, but also deeply integrate itself into the global economy. By trading food products and contributing to improving global food security while strengthening its own national economies, it can generate much needed employment, lower income inequality and more broad-based well-being for its people.

Part A | Chapter 1

The Economic Geography of African Foreign Direct Investment

By Ronald Wall

Solar panels in the Salmonsdam Nature Reserve, South Africa. The huge potential for renewable energy has yet to be exploited leaving 645 million Africans with no access to electricity
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1. Introduction



Improving the quality of life of Africans through the creation of millions of jobs was one of five key objectives announced by Akinwumi Adesina, President of the African Development Bank, in his inaugural address in 2015

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1.1. Africa's development agenda and the need for foreign investment

Over the past two decades, most African economies have grown rapidly and, continent-wide, extreme poverty declined from 56% in 1990 to roughly 42% in 2015. Huge improvements in economic policies, advancing political stability and enhanced business environments have all made Africa increasingly attractive to foreign direct investment (FDI), which amounted to USD56.5 billion in 2016 (African Development Bank (AfDB) 2016).

However, despite these achievements, poverty remains a major challenge, especially given the continent's rapid population growth. In 2015, an estimated 400 million Africans were still living in poverty. Income inequality is escalating, youth unemployment is intensifying, and gender inequality persists. Africa's development performance clearly remains highly vulnerable to the impact of changes in the global economy, such as the recent world recession, Brexit, political turmoil in the USA and economic changes in China.

Africa's strong development potential has not yet been utilized in most sectors. For instance, despite a massive agricultural potential, many African countries remain highly food insecure, spending billions of dollars on the import of food while, at the same time, large amounts of agricultural products are being produced and exported by foreign firms through international land outsourcing arrangements to feed people elsewhere in the world. Having said that, Africa holds 65% of the world's arable land, could generously meet its own food requirements and, under the right policy interventions, could possibly feed the entire planet by 2050.

Likewise with energy. Approximately 645 million Africans have no access to electricity because the continent's enormous renewable energy potential remains essentially unexploited. Industrialization efforts have not been very successful, mainly due to poor policies and ineffective financial and support services. Policies to harness the private sector and domestic and foreign direct investment (FDI) could facilitate access to finance for innovative enterprises, incentivize entrepreneurship and provide more conducive business environments to stimulate industrial impetus.

In the context of the above, improvement of the quality of life for people in Africa is one of the new five key targets for 2025 of the African Development Bank. This includes the creation of millions of new jobs to help lift a majority out of extreme poverty. This aim is said to require various forms of financial intervention with the attraction of FDI as one of the key actions. New and additional FDI will be critical because inadequate public funding in many African countries is not able to kick-start industrialization processes. Foreign firms and investors could, in future, play a catalytic role in African development, if guided by truly sustainable policies. This type of development would be in accordance with the 2013-2022 strategy of the African Development Bank (AfDB) which emphasizes, on the one hand, the promotion of inclusive growth and, on the other, the transition to green growth. FDI into renewable energy can be used to achieve this target because besides producing clean energy, it generates a lot of employment. A key aspect of the AfDB's strategy is development of financing from the private sector, including FDI.

The African Union (AU Agenda 2063) holds similar aspirations, as expressed in its first target: "Prosperous, inclusive and sustainable development

for Africa". Both these organizations' aims are fully compliant with the first UN Sustainable Development Goal: reduction of poverty.

According to the *Economic Report on Africa* (UNECA, 2017) the need for finance to support Africa's transformation "agenda is enormous". Just to close Africa's financing gap in infrastructure, some USD94 billion in annual investment is required over a ten-year period (WEF, 2015). Furthermore, Africa's total debt has increased steadily and is forecast to reach 32.4% of continental GDP by 2017, which raises concerns for Africa's long-term debt sustainability.

Various African, continental, regional and national strategies, e.g. the Plan of Action for the Accelerated Industrial Development for Africa (AIDA) in 2008 and the AU's Agenda 2063 have stated the importance of industrialization and attracting FDI, especially for manufacturing, to bring essential capital, technology and expertise to the continent. Because of the inadequate resources in many African countries to finance industrial development, attracting FDI is vital to igniting industrialization and bolstering industrial diversification, via knowledge and technology transfers, and for stimulating productivity and export

Because of the inadequate resources in many African countries to finance industrial development, attracting FDI is vital to igniting industrialization and bolstering industrial diversification, via knowledge and technology transfers, and for stimulating productivity and export performance

performance (African Development Bank Group, 2017; UNECA, 2016). Because Africa is experiencing some of the highest urbanization rates in the world (UN-Habitat 2008 and 2014) and because FDI into Africa is rapidly growing in secondary and tertiary sectors, it implies that FDI into Africa must increasingly be located in cities where such sectors typically thrive.

The century from 1950 to 2050 is 'the global century of urbanization' during which, broadly speaking, the global population will transform from a 70% rural to a 70% urban population majority. This

is an accelerating process in the two global regions that are relative late entrants in this transformation: Asia and Africa. Various studies e.g. UN-Habitat's *State of African Cities 2008, 2010 and 2014* reports, show that African urbanization rates far exceed initial expectations. Others (e.g. Global Cities Institute, 2014) project that several African cities could become some of the largest in the world. The high rates of urbanization are today not merely attributable to large-scale rural-urban migration but, as urban populations grow, natural growth plays an increasingly important role in Africa's urbanization.

Rapid urbanization in Africa often results in the urbanization of poverty and manifests itself in mushrooming urban informal settlements (slums) (UN-Habitat's *State of African Cities 2014*). In this light, the World Bank's 2017 *Africa's Cities* report identified three features of African cities that restrict urban development. Firstly, African cities are crowded but not economically dense, meaning that physical, industrial and commercial structures have not developed in parallel with the fast-growing populations. In short, African urban population growth is significantly outpacing urban economic growth.

Secondly, African cities are generally internally fragmented and composed of small and disconnected neighbourhoods. Such cities typically lack efficient transport networks, which limits access to job opportunities and reduces the productivity of firms, as they are unable to fully reap the benefits of economies of scale and urban agglomerations (Lall et al., 2017; UNECA, 2017b).

Thirdly, African cities are expensive to investors, particularly regional and international investment, due to high transaction costs associated with inefficient urban form e.g. urban sprawl and underdeveloped transport networks. (Lall et al., 2017). Therefore, steering African urbanization along more sustainable paths is not only a challenge for Africa, but also requires international cooperation to ensure that resource utilization is well managed and that African cities develop sustainable and inclusive economies, societies and environments.

Nowadays, cities account for roughly 70% of global GDP (World Bank, 2009) which affirms the profound role that urbanization plays in unleashing the economic potential of cities. In Africa, primary cities like Johannesburg already account for a considerable share of national GDP. The African Union's Agenda 2063 undisputedly acknowledges that urban centres



In Africa, primary cities like Johannesburg already account for a considerable share of national GDP

substantially contribute to African GDP, generate employment, reduce poverty and can be considered a major driving force in the continent's transformation (African Union, 2015). Similarly, the United Nations has recognized in its Sustainable Development Goal on Urbanization that cities are productivity hubs driving growth and development. (World Bank, 2010).

UN-Habitat's New Urban Agenda (2016), endorsed by the UN General Assembly, stresses the role of cities in economic growth and views cities as vehicles for inclusive and sustainable economic growth. It leverages urbanization for structural transformation, higher productivity, inclusive growth, economic diversification, value-added activities and resource efficiency, while supporting the sustainable transition of informal to formal economies. Yet, significant gaps remain in the availability of data and the empirical understanding of African urban economies. This



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Rapid urbanization in Africa often results in the urbanization of poverty and manifests itself in mushrooming urban informal settlements (slums)

frequently inhibits the formulation of evidence-based policies and opens the door to less efficient or even inappropriate policies. Therefore, the availability of data and suitable methods for measuring the actual contribution of African cities to their economies is vital for future effective development, planning and good urban management.

The current chapter explores several key research questions posited by UN-Habitat regarding the economic geography of FDI into Africa. These

questions concern: (1) the geographic structure of global FDI into African cities and countries; (2) the trends in global FDI in African regions and countries; (3) the forecasts for global FDI in African regions and countries; (4) the competitiveness and economic diversification of African cities within the global FDI network; (5) the factors and impact of FDI in African cities and countries; (6) the derivation of the report's four city case studies (Abidjan, Cairo, Johannesburg and Kigali); (7) the social, environmental and economic factors of FDI clusters in Johannesburg; and (8) the derivation of FDI sectors that can be beneficial to African cities in term of employment generation.

These generic studies form the departure point for the examination of Chinese investment into Africa (Part A), the thematic studies (Part B) and the four city case studies (Part C). Prior to discussing the answers to UN-Habitat's questions, a theoretical

overview is provided here to explain foreign direct investment and its concepts from the field of economic geography that support the various chapters of this report.

1.2. Global economic integration

Globalization continues to shape our world, particularly through trade, financial integration and knowledge dissemination. The flow of capital across national borders, such as portfolio (equity)

and that true globalization gained momentum. Trade liberalization and increased capital mobility - facilitated by the rapid spread of ICT from the 1980s onwards - accelerated economic integration which, in turn, intensified competition for markets, trade, investment, knowledge and skills. This process implies increasingly complex interactions between firms, cities, countries and regions in competitive strategies to attract FDI (Narula and Dunning, 2000) with the common objective of improving economic performance (Begg, 1999; Kresl, 2013).



The Industrial Revolution in Europe in the mid-18th century initiated the modern era of global integration

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investment, debt finance and foreign direct investment is an indication of global financial integration. FDI is considered a key factor in global economic integration (OECD, 2009; Pazienza, 2014). Although economic integration dynamics can be identified in various historic eras, it was the advent of the Industrial Revolution in Europe around 1760 that initiated the modern era of global integration. Initially dominated by colonial economic relationships, it was only after World War II that the integration dynamics broadened and deepened

Today, both national and municipal governments concentrate on policies to enhance their global and regional competitiveness (Kresl, 2013) as an important factor in their pursuit of economic success (Kitson, 2016). Urban economic competitiveness can be defined as 'the ability of an economy to improve market shares in an activity, while providing increasingly better standards of living' (Storper, 1997). This is determined by a variety of factors including the skills of the population (labour capital); accessibility and connectivity (infrastructural capital); the output

capacity of firms (productive capital); institutions and their networks (institutional capital); available knowledge and technology (creative capital); and the attractiveness of a place (cultural capital).

The United Nations (2013) has predicted that 64.1% of developing and 85.9% of advanced economies will have urban population majorities by 2050. Much of the associated urban population growth will be absorbed by secondary and tertiary cities but the world's largest existing urban agglomerations will contribute a major proportion of global GDP (Dobbs et al., 2011).

The United Nations (2013) has predicted that 64.1% of developing and 85.9% of advanced economies will have urban population majorities by 2050

Fundamental to this growth is the rapid accumulation of people, capital and knowledge. This process involves flows between cities at different spatial scales (Jacobs, 1969; Castells, 1996) and has the potential to transform the uneven spatial relations that exist between advanced and developing economies (Harvey, 1982; Friedman, 1986; Shannon, 1989; Arrighi, 1999).

Despite their functional and spatial differences, both global networks and local clusters have the common characteristic that they exist due to their likelihood of interaction. According to Bathelt et al. (2004) these interactions are between “global pipelines” of information, technology and knowledge that are maintained for control, interaction and cooperation within the corporate network, and the “local buzz” of tacit knowledge and information spill-overs. Similarly, *The State of African Cities 2014* highlighted three important aspects for sustainable development in Africa. Firstly, economic development should be to a large degree self-driven through domestic exploration and improvement of technology. Secondly, trade and investment flows within Africa, as well as between Africa and other continents needs to be increased. Thirdly, improved urban governance is conditional for sustainable economic development (UN-Habitat, 2014).

Due to the globalization of firms, corporate activities are spatially dispersed across the world in various types of cities and different urban districts

within these cities. Some firms need to co-locate with similar types of firms while others need proximity to logistical nodes (e.g. airports and railway stations) or require knowledge interactions (e.g. universities and research institutions). Precisely because business functions have different locational needs, distinctive spatial patterns are formed among and within cities. Some functions tend to be geographically dispersed while others are geographically concentrated (Dicken, 2011) to reap the benefits of shared input, information and knowledge spill-overs, and labour market pooling (Marshall, 1920). It is the urban proximity of different types of firms that makes urban agglomerations more innovative and productive (Jacobs, 1969) because the interconnectedness of companies, specialized suppliers, service providers, related industries and associated institutions (e.g. universities and trade associations) facilitates both competition and cooperation (Porter, 2000).

1.3. Key concepts and definitions of FDI

FDI is the investment made by a firm in one country in an enterprise of another country for the purpose of establishing enduring interests and control (UNCTAD, 2007). FDI originates when a multinational enterprise (MNE) decides to relocate some of its activities to a foreign country and thereby gains power to control production, innovation and markets (Athukorala, 2009). The geographical distribution of FDI is determined by the value added activities of MNEs, because the locational advantage of different places influences the location decisions of the firm (Dunning, 1998). In turn, this affects the development of human resources, employment, technological progress and trade.

FDI is considered an important engine for economic growth in recipient countries (Bhandari, 2007) and is said to be more beneficial than other forms of capital such as loans or stock (Loungani and Razin, 2001). Although strictly speaking FDI only concerns capital movements, it also serves as a facilitator of employment, higher productivity, entrepreneurial competition and technology spill-overs. Key potential advantages of FDI for a host country include access to finance, which is especially important in capital-scarce countries, since it provides opportunity for access to production processes, new technology, new management systems and skills transfer to improve local

competitiveness. It also enables the potential for development of local upstream and downstream industries (linkages) and access to new market spaces, including participation in global and regional supply chains. As stated by Faeth (2009), developing economies use FDI to access international markets, as it is an important source of financing - often a better option than local bank loans. Countries further use FDI to address technological and financial constraints (Demirhan and Masca, 2008) and facilitate higher economic growth and development (Asiedu, 2002).

There are several opportunities that firms seek when investing in foreign countries. Firstly, a firm may enter a new economy with the hope of supplying local demand or producing products to sell outside the host country's borders; market seeking and non-market seeking strategies, respectively (Asiedu, 2002). Firms internationalize if the competitive advantages gained from operating abroad are high enough to cover the additional costs and perceived risks. Following Dunning's *OLI paradigm*, Brienen et al. (2010) and Dimitropoulou et al. (2013), argue that firms decide to invest abroad when they have market power, given by the ownership (O) of products or production processes, a location advantage (L) in placing their plant in a foreign country, and an advantage gained from internationalizing (I) their foreign activities in fully owned subsidiaries, rather than carrying them out through international trade or networked relationships with other firms (licensing and franchising).

Finally, FDI is often differentiated in horizontal and vertical types (Barba Navaretti & Venables, 2004; Iammarino & McCann, 2013). Horizontal FDI concerns investments in which a firm replicates its own activities abroad, for instance Toyota completely produces cars in both Japan and the UK. The fundamental trade-off for this type of investment is between the enlarged sales (market access), strategic advantage and reduced transportation costs that are gained by operating abroad, versus the costs of corporate disintegration. Vertical FDI, in contrast, relates to investments in which a firm decides to geographically disperse different corporate functions carrying out some functions abroad. For instance, Toyota buying a separate car distribution centre in the US. In this case, the trade-off is between lower factor costs associated with investing abroad versus the increased costs of trade

and corporate disintegration. Hence, vertical FDI is a more complex form in which various elements of the production process are located where production can be optimized (e.g. lower labour costs) and where urban agglomeration forces and local spill-overs become part of the firm's decision-making process.

Generally, horizontal FDI will locate in cities with good market access, while vertical FDI is a more complex phenomenon where location factors are fundamental to where a particular corporate function will be located e.g. R&D, finance, assembly,

Foreign market-seeking FDI, as the name indicates, concerns firms that seek to supply their goods and services to foreign markets. In most cases, these markets were previously served through exports from the firm's domestic market

sales, etc. These are matters of which we currently know little, except that they are closely linked to geographical scales and spatial economic systems (Iammarino and McCann, 2013). The resultant complex horizontal and vertical networks of firms operating at different scales, plus their interaction with local urban forces, institutional policies and knowledge systems strongly affect the economic development of countries and cities.

Dunning (1998) distinguished four kinds of motives for FDI to locate in particular countries: 1) market seeking, 2) efficiency seeking, 3) resource seeking and 4) strategic asset-seeking. The latter is gaining more importance over the past decades.

Foreign market-seeking FDI, as the name indicates, concerns firms that seek to supply their goods and services to foreign markets. In most cases, these markets were previously served through exports from the firm's domestic market. This kind of FDI is typically a form of horizontal investment whereby (emerging) markets are served by local affiliates. Besides market size, accessibility and infrastructure also play a key role for this type of investment. This is shown in the research by Chenal (2016), which underlines the importance of infrastructure, planning and finance for Africa's growing cities. These concern multinationals

which generally aim to produce and sell their products and services locally and not for export.

Efficiency-seeking FDI refers to firms that attempt to reduce production costs related to labour, machinery and materials. Price differences in these production factors cause firms to geographically separate corporate functions. The lower production costs abroad are commonly associated with lower wages, lower or exemption from taxes, reduced trade costs, as well as grants and subsidies provided by host countries to attract the FDI. This type of investment

rents (which concerns the competitive rent trade-offs between different urban functions). Efficiency-seeking FDI can therefore be described as a process whereby firms decide where a particular fragment in the production process can best be located. Examples are hi-tech and knowledge-intensive multinationals.

Resource-seeking FDI relates to firms that invest abroad to acquire certain resources at lower costs than in their original market. In this case, natural resource availability, good infrastructure (to secure physical supply) and local partners to obtain specific



Toyota's largest manufacturing plant outside Japan is in the US. Horizontal FDI concerns investments in which a firm replicates its own activities abroad

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often concerns vertical FDI. Hence, modern production processes become globally disjointed and are partially relocated to a more effective location. The location of these functions is determined by factors of dispersion and agglomeration, where dispersion relates to e.g. the high costs of local production, fierce local competition, urban congestion, high housing prices etc., while agglomerating forces concern large local markets and access to regional markets, a specialized labour market, local knowledge spill-overs and, more commonly, local agglomeration

knowledge are important reasons for these firms to invest abroad. Examples are mining and food multinationals. Although all FDI motives exist in Africa, non-market and resource-seeking strategies have been most frequent due to Africa's strong history of extraction-based FDI. However, as shown further on, this pattern is changing with FDI increasingly targeting the more advanced production and knowledge intensive sectors.

Strategic asset-seeking FDI concerns firms that aim to purchase assets of other firms to bolster long-term



A 2015 study argues that Africa's strength in commodities has resulted in minimal focus on local value addition

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strategic objectives, such as sustaining and advancing the firm's international competitiveness. It concerns multinationals that explicitly aim to acquire unique assets (often entire local firms), so as to bolster their operations internationally and at home. This category of investment is determined by a need to acquire assets and knowledge ranging from specific technological capabilities and management strengths to marketing expertise. This type of investment includes both vertical and horizontal FDI.

In addition, three other classifications of FDI can be distinguished: greenfield investments (development of new locations), brownfield investments (redevelopment of existing sites) and mergers and acquisitions (transfer of ownership of existing facilities). The first two involve capital investments and often new employment and knowledge generation for a location, while the latter generally only concerns ownership change at the location. Greenfield investment is considered to have a more positive effect on development because it implies establishment of entirely new businesses (AfDB, 2016).

1.4. Urban and corporate interconnectedness and hierarchy through FDI networks

Since 1950, an important feature of the global economy has been the growing interconnectedness between different parts of the world as reflected in the rapid growth of FDI. Because FDI now accounts for the lion's share of global GNP, it has arguably become a primary mechanism of the world economy and its evolution (Grimwade, 2000; Dicken, 2011). In 2004, for example, the top-500 multinationals accounted for 90% of global FDI and controlled 50% of world trade (Rugman and Verbeke, 2005). Through FDI, multinationals have become increasingly sophisticated in managing and integrating activities across borders (Narula and Dunning, 2010), securing greater control of foreign markets, production processes and cost advantages. Because FDI brings capital, knowledge and technology to a region, it raises levels of employment, activates the development of local business and leads to the development of new urban projects. It therefore becomes increasingly important for urban regions to understand their relative position within global networks of FDI.

Hymer (1972) foretold that the structure of the world system (network) would eventually mirror the international organization of multinational enterprises,

i.e. the division of labour across geographic regions would resemble the hierarchical division of labour of multinational firms. It was shown that a diffusion of industrialization to developing economies would occur through which production-related activities would concentrate in cities in the middle- and lower-development phases, while corporate decision-making activities would concentrate in a handful of global cities e.g. London, New York, Paris and Tokyo. In line with this, Friedmann's world city hypothesis (1986) posits firstly that the extent to which a city is functionally integrated into the world economy is decisive for its development level. Secondly, core cities are utilized by global capital as hubs in the spatial organization of production and markets. Thirdly, the subsequent economic network enables the arrangement of world cities into complex spatial hierarchies.

Today, in a world where multinationals and FDI increasingly determine the fate of cities through the provision of financing, jobs, knowledge, technology, human capital and infrastructure, a strong coherence exists between cities (place) and their share of FDI

Later, Friedmann (1995) argued that world cities are hierarchically ranked by the economic strength of the city ties they command. Thus, high-ranking cities are the control centres of the global economy, followed at a lower level by cities that control supra-regional economies and, at lower levels, cities that articulate national and subnational economies. Today, in a world where multinationals and FDI increasingly determine the fate of cities (Alderson and Beckfield, 2004) through the provision of financing, jobs, knowledge, technology, human capital and infrastructure, a strong coherence exists between cities (place) and their share of FDI (network) (Wall, 2009; Burger et al., 2013). In other words, the more connected a city, the higher its level of urban development in the sense of economic performance and quality of life (e.g. city product, technical achievement, technological innovation and physical development).

FDI clearly does not randomly locate in just any city or region, but seeks out locations with the right conditions (Kostiainen, 2002; Kitson et al., 2004; Burger et al., 2013). Therefore, knowing which factors attract FDI is critical to achieving competitive cities and regions. At the same time, governments can play an important role by considering which type and scale of investment is appropriate for the city and by choosing desirable spatial forms and infrastructural patterns for sustainable urban and economic development. Hence, governments should adopt cross-sectoral modes of urbanization and industrialization in their national urban development planning (UNECA, 2017b), but also include desirable domestic agriculture policy and population dispersion strategies—especially in countries with high urban primacy (a disproportionate share of the national urban population living in the largest city). For instance, in the *African Economic Outlook 2016*, it has been shown by Wall (2016) that various sizes of cities, through clustering, regional integration, complementarity and collaboration, form economies of scale that attract investors (OECD, 2016). These urban regional clusters attract FDI because they consist of various primary cities and secondary cities in close proximity to one another that are connected by well-established roads, rail and port networks.

1.5. FDI and territorial development

Several location factors affect FDI inflows, e.g. wage rates, skills, trade and financial openness, infrastructural quality, profit margins, natural resources, market size, macroeconomics, political settings and tax incentives (Bayraktar, 2013). The impact of these factors varies across time and the country's stage of development (Dunning, 2009). Other determinants for FDI attraction can be found in neo-institutional theories e.g. the stability of the political system, quality of the legal frameworks and protection of property rights (La Porta et al., 1997; Asiedu, 2002; Kurtishi-Kastrati, 2013). Blonigen (2005) argues that legal protection, corruption and the correlation between poor institutional quality and infrastructural quality also affect FDI attraction.

A number of factors explain why Africa is not a major recipient of FDI. According to an AfDB (2011) report covering the period 1980-2007, market size, trade openness, urban agglomeration

and natural resources all positively influence FDI into Africa. Moreover, stable macroeconomic environments, labour efficiency, local markets, infrastructures, high inflation rates, underdeveloped regulatory legal systems, corruption and political instability are all major positive or negative determinants of FDI inflows (Asiedu, 2006).

Over the past two decades, Africa has become a preferred destination for investment from advanced economies in Europe and North America and increasingly also from emerging economies in East and

Over the past two decades, Africa has become a preferred destination for investment from advanced economies in Europe and North America and increasingly also from emerging economies in East Asia like China and India, as well as countries in the Middle East and North Africa region such as Saudi Arabia and the United Arab Emirates

South Asia like China and India, as well as countries in the Middle East and North Africa region such as Saudi Arabia and the United Arab Emirates. (McMichael & Schneider, 2011). Abundant natural resources and cheap labour, amongst other factors, have helped attract these investments. However, while Africa's FDI inflows are growing in absolute terms, in relative terms they remain stagnant when compared to, for instance, Asia and Latin America. Africa still attracts less than 5% of total global investments (UNCTAD, 2015). This is partly due to the continent's loose global economic integration, which limits both its role in the global network and the full benefits of globalization. This can be attributed to less-developed institutions, relatively unskilled labour, inadequate governance, and low productivity.

Other factors deterring investment in Africa are the low levels of economic integration and intra- and interregional trade in Sub-Saharan Africa. Moreover, African economies generally suffer from a shortage of electrical power, unreliable communication

technology and a huge accumulated infrastructural deficit of an estimated USD900 billion (Kuo, 2015). Further adding to the problem are a pervasive lack of savings, underdeveloped real-estate markets, run-down shipping ports, lack of transport and communication connectivity, excessive pressure on urban management capacity and resources with commensurate shortcomings in housing and municipal service delivery. There is also a serious lack of access to international capital markets. As a result, international firms have been less attracted,

the new century, however, Africa saw a large increase in FDI - from USD20 billion in 2003 to USD50 billion by 2007 (ECA, 2014). Nonetheless, although many developing economies now experience more FDI growth than advanced economies, the African continent accounts for a mere 5% of total global FDI, a third of what Latin America received and an eighth of what flowed into Asia in 2015 (UNCTAD, 2015)

It is often argued that FDI into Africa is mainly motivated by extraction of natural resources, cheap labour pools and large market size (Asiedu, 2006;



New technologies are helping Africans overcome unreliable electricity supplies, which has been one of the factors deterring FDI

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making Africa the least-integrated continent in the world (Ben-Ari, 2014). Moreover, FDI inflows declined by 15% in 2016 due to weak global demand in the wake of the global recession (UNCTAD, 2016). However, over the medium term, global FDI is expected to rise again, based on positive expectations of global macro-economy recovery (UNECA, 2017).

Historically, Africa has lagged far behind other world regions in terms of FDI. Prior to 2000, Africa accounted for around 2% of global FDI inflows (Anyanwu & Erhijakpor, 2004). In the first decade of

Khadaroo & Seetanah, 2009). A study by Chen et al. (2015) posits that what impedes investment in Africa is the continent's strength in commodities, which historically has resulted in minimal focus on local value addition. Onyeiwu and Shrestha (2004) show that inappropriate institutional frameworks have made the distribution of African FDI highly uneven due to the significant uncertainty that weak governance poses to investors. These findings contribute to a perception of Africa as a risky place to conduct business and explain Africa's very low global investment connectivity.



Remittances—monetary transfers by foreign workers to individuals in their home countries—compete with development assistance as one of the largest financial inflows to developing economies

Various studies have identified FDI as a key agent in a country's integration into the global economy and with a positive effect on host countries. However, Žilinské (2010) asserts that FDI can vary in its impact on a country's development including whether it concerns greenfield investment or M&A, the industrial sector, the duration, the business location, and the availability of local firms and suppliers. FDI does not only concern the movement of capital across borders, but also the channelling of wealth, knowledge, and technology, and the creation of employment opportunities to stimulate the local economy. Also, an empirical study by Silajdzica and Mehica (2015) concluded that FDI is essential for knowledge spill-overs, technological advancement, and research and development (R&D) which, in turn, ensure economic progress. Furthermore, macroeconomic

outcomes such as domestic savings, unemployment and foreign exchange rates are also strongly influenced by FDI. It has been shown that major FDI recipient countries tend to have favourable trade outcomes and stronger balance of payment accounts - due to, *inter alia*, declining trade barriers, falling transport costs and the proliferation of multinational companies (Turok, 2004).

Having said that, a commonly recognized negative aspect of FDI is its potential crowding-out of local businesses, particularly in developing economies. FDI may also prevent or reduce domestic investments and can have adverse consequences for national economic progress (Denisia, 2010). Dependency theory asserts that economic dependency on advanced economies is harmful to developing countries in the long run and can result in socio-economic disparities and



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Table 1.
Financial indicators for Africa (% current USD billions) 2011-2016

Investment Type	2011	2012	2013	2014	2015	2016
Tax revenue	36	34	33	33	40	39
Domestic investment	34	35	36	37	43	43
Official reserves assets	17	18	18	17	na	na
FDI	3	4	4	4	5	6
Remittances	4	4	4	4	6	6
Portfolio investments	2	2	2	2	1	1
Development assistance	4	3	4	4	5	5

Source: Based on UNECA (2017), AfDB (2016), IMF (2016), UNCTAD (2016) and World Bank (2016) data

economic fragmentation in the developing economies (Firebaugh and Beck, 1994). Foreign investments are said to also lead to the fragmentation of production and increased inequality between highly skilled and low-skilled workers (Tsai, 1995). FDI possibly also inhibits the development of indigenous skills (Todaro, 1992). Adams (2009), in his study on Africa, concluded that although FDI is crucial to growth it may not be sufficient to properly develop Africa. Nonetheless, despite these negative arguments, most theory supports FDI as a strong development factor. International organizations such as the World Bank, the OECD and the IMF encourage developing economies to attract FDI based on a neo-liberal approach to economic growth theory which holds that FDI contributes to economic growth: a) directly by filling the investment-savings gap and increasing know-how in host countries, and b) indirectly by economic spill-over effects on domestic firms - such as access to foreign technology, skills, people and management best practices (Pazienza, 2014).

1.6. Data and methodology used in this report

Table 1 below is used to put FDI into context with other forms of finance. The first three (tax revenue, domestic investment, and official reserves assets) concern local forms of finance, while the last four refer to international sources. Tax revenue, domestic investment and official reserves assets clearly provide the lion's share of Africa's finance because they concern the internal economic activities of entire countries. It is therefore not surprising that international sources i.e. FDI, remittances, development assistance and portfolio investments are much smaller. Nonetheless, according to the OECD (2016 and 2017), of the four external financial sources, FDI accounts for roughly 32% (Minsat and Nguyen, 2017 - OECD Report 2017: Appendix 1).

Remittances refer to monetary transfers by foreign workers to individuals in their home countries, and this competes with development assistance as one of the largest financial inflows to developing economies. Portfolio investments concern international equity investments where an owner owns less than 10% of a firm's shares. This is in contrast to FDI which permits an investor to exercise far greater control over a company. Of the external private sources, FDI is clearly important to Africa. It is different to other types of external private capital because it is motivated by the long-term prospects of investors seeking to make profits in economic activities that they control

directly. In contrast, portfolio investment and foreign bank lending are influenced by a diversity of factors (e.g. interest rates) rather than by portfolio investors, who are generally motivated by short-term profit considerations that are, in turn, influenced by a diversity of factors (e.g. interest rates).

The FDI data used in this report has been mainly sourced from the *Financial Times'* fDi Markets database and concerns 'greenfield' investments, whereby parent companies start up entirely new ventures in foreign countries by developing new operational facilities from the ground up. The reason for focusing on greenfield FDI (and excluding mergers and acquisitions) in this report, is not only that greenfield project investment is a strong indicator of the attractiveness of a region or city, but also because the data can uniquely be aggregated at sectoral, activity, country and city levels. Furthermore, greenfield projects have high company profile requirements because it normally concerns investments by multinational corporations (MNCs). When MNCs start up new operational branches, they explore domestic markets, which demands domestic capital availability, such as investment networks and cooperation mechanisms. Next, greenfield projects are also known to directly facilitate the growth of capital formation, local productivity and employment. Lastly, in contrast to international financial investments, such as mergers and acquisitions (M&A), greenfield projects tend to transfer core technology and production processes to the host country. For these reasons, but also due to the lack of similarly detailed and comparative data on M&As in Africa, the majority of analyses carried out for this report were done using greenfield FDI.

For the sake of simplicity, analytical results in this report are referred to as FDI, but the reader should bear in mind that it mostly concerns the greenfield component of total FDI. Nonetheless, a correlation was carried out on a sample of M&A (Zephyr, 2017) and fDi Markets greenfield FDI data, where a very high correlation was found. Consequently, it could be assumed that greenfield FDI serves as a good proxy for total FDI.

The *Financial Times'* fDi Markets Data used was verified by testing it against similar databases e.g. those used for UNCTAD reports. The data shows high correlations with their data. The correlation between the number of investments (count) and the value of investment (US dollars) into countries was also tested and it was found that whether using value or count data in aggregated analyses would

Based on the theoretical background of this section, it is evident that much is already known about FDI in Africa. However, a significant share of the existing information is general or dated

not make much difference. Accordingly, depending on the type of analysis, these modes of data were used interchangeably, although the most frequently used was FDI value. The fDi Markets data had to be completed for missing values and cross-matched with other databases e.g. ORBIS, geocoded for geographic coordinates and aggregated to city, country and sectoral level. Besides the fDi Markets data, other sources of FDI data e.g. from the World Bank, UNCTAD and Passport databases, were also utilized for the analyses.

The country or city indicators relevant to FDI attraction were extracted from databases such as those of Oxford Economics, ORBIS, Passport, Analyze Africa and the World Economic Forum's Global Competitiveness reports. Lastly, in the development of this report, various methods and techniques have been used. These include GIS techniques (using ArcGIS and QGIS software) to calculate and map particular types of data; network analysis techniques, e.g. 'space-syntax', 'betweenness', 'closeness' and 'degree centrality metrics' (based on Ucinet, Netdraw and Gephi softwares); as well as cross-sectional and panel data modelling, e.g. fixed-effects, random-effects, VAR panel models, negative binomial models, and ARIMA models for forecasting (using R and STATA statistical packages). In statistical analyses, causal relations were built on theoretical arguments, but could often not be empirically tested due to time constraints and data limitations.

Based on the theoretical background of this section, it is evident that much is already known about FDI in Africa. However, a significant share of the existing information is general or dated. Little detailed empirical understanding exists on global networks of FDI into African cities and countries. For this reason, the remainder of this report aims at contributing to a more detailed knowledge on this topic. Accordingly, the seven research themes mentioned at the beginning of this chapter (the structure, trends, forecasts, competitiveness, determinants and impact of FDI in African countries and cities) are explored below.



Luanda, Angola. Greenfield investment is considered to have a more positive effect on development because it necessitates the establishment of entirely new projects or companies (AfDB, 2016) © Fabian Plock

2. The geographic structure of FDI into Africa



In terms of FDI for headquarters, Johannesburg heads the rankings with its international airport and modern infrastructure being a key factor

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2.1. Results on total FDI networks

In this section the pattern of FDI flows into Africa is described at different levels of spatial and sectoral aggregation: major (world) regions, African constituent regions, countries and cities. Table 2.1 shows the total percentage distribution of FDI (in US dollars) from global regions into Africa and its major constituent regions for the period 2003-2016.

Western Europe, possibly due to its proximity and colonial legacy of embedded trade and financial interests, is the largest continental investor into Africa

(38%), followed by Asia and the Pacific (20%) and North America (15%). It is interesting to note that Africa is the 4th largest investor (into itself) indicating that intra-African investment is significant. Western Europe invests mostly in Northern Africa (47%) partly because this African region is the nearest to Europe, but also because of its strong resource endowment of the petrochemical and tourism sectors. This is followed by FDI into Southern Africa (44%), which most likely reflects the prominence of the English language and historical ties to the UK of such countries as Botswana, South Africa, Zambia and

Zimbabwe. Asia and the Pacific appears to invest quite uniformly across the African continent with almost all values around 20%. North America invests mostly into Central (32%) and Western Africa (18%), arguably due to commodities like oil. Geographic proximity, historical trading and cultural links with the Arab

environment and ease of doing business which makes it a desirable location for investment (Mahdi et al., 2018). It is noteworthy that 40% of the top-10 are in Northern Africa, but also that many of these are currently experiencing negative FDI growth, arguably reflecting political and social tensions in the wake

Table 2.1.
Percentage FDI received by African regions from global regions (2003-2016)

FDI Received by African Regions	Central Africa %	Eastern Africa %	Northern Africa %	Southern Africa %	Western Africa %	Africa %
West Europe	23	27	47	44	28	38
Asia and Pacific	25	22	14	23	22	20
North America	32	14	11	15	18	15
Africa	15	20	4	12	22	13
Middle East	4	14	19	2	8	11
East Europe	1	4	5	1	1	3
Latin America	0	0	1	2	1	1
World Investments into Africa	100	100	100	100	100	100

Source: Wall, 2017. Based on fDi Markets data

world e.g. shared religion and language likely explain why the highest Middle Eastern investments are into Northern Africa (19%), followed by Eastern Africa (14%) and Western Africa (8%). Africa itself invests most into the Western (22%) and Eastern Africa (20%) regions. Strikingly, data for the first decade of the new century indicates Latin America (1%) hardly invests in Africa, discrediting the notion of emerging South-South investment ties between the two continents.

Table 2.2 shows which African cities (out of 558 cities) have received the most FDI (in USD) over the period 2003-2016, as well as their ranking amongst roughly 10,000 cities and towns worldwide. The table also shows the positive or negative FDI growth rates of these cities over the same period.

Firstly, it indicates that Cairo holds the first place in Africa in terms of volume of FDI attracted, followed in 2nd place by Johannesburg, then Tangiers (3rd), Lagos (4th), Casablanca (5th), Algiers (6th), Cape Town (7th), Nairobi (8th), Abidjan (9th) and Dakar (10th). The case study of Cairo in Part C of this report reveals that, apart from the proximity to Europe and Arab States, Cairo is a vibrant city with well-developed infrastructure and road networks, an availability of skilled workers, a conducive foreign investment

The case study of Cairo in Part C of this report reveals that, apart from the proximity to Europe and Arab States, Cairo is a vibrant city with well-developed infrastructure and road networks, an availability of skilled workers, a conducive foreign investment environment and an ease of doing business which makes it a desirable location for investment

of the 'Arab Spring'. It is further noteworthy that many newly emerging urban economies like Abidjan, Accra and Kigali have high positive growth rates. This is common for cities in a 'catching-up phase' coming out of a lower economic base. Part C of this report presents the detailed case studies of Abidjan and Kigali for a deeper understanding of the recent growth and development dynamics of these cities and the role of FDI therein.

Table 2.2.
The FDI rank of African cities at the African and global scale (2003-2016)

Cities	African Rank	Global Rank	Country	African Region	Total (USD millions)	Growth (%)
Cairo	1	64	Egypt	Northern Africa	13716	-1.25
Johannesburg	2	69	South Africa	Southern Africa	13211	6.23
Tangier	3	82	Morocco	Northern Africa	10542	23.84
Lagos	4	101	Nigeria	Western Africa	9213	7.23
Casablanca	5	111	Morocco	Northern Africa	8370	9.38
Algiers	6	114	Algeria	Northern Africa	8016	-14.74
Cape Town	7	135	South Africa	Southern Africa	6434	0.33
Nairobi	8	146	Kenya	Eastern Africa	5978	25.01
Abidjan	9	155	Ivory Coast	Western Africa	5534	25.44
Dakar	10	180	Senegal	Western Africa	4775	-1.75
Rabat	11	183	Morocco	Northern Africa	4737	-6.54
Marrakech	12	201	Morocco	Northern Africa	4258	-17.20
Accra	13	207	Ghana	Western Africa	4066	34.72
Dar es Salaam	14	244	Tanzania	Eastern Africa	3482	-4.75
Tunis	15	248	Tunisia	Northern Africa	3453	-7.78
Tete	16	250	Mozambique	Southern Africa	3441	-6.23
Luanda	17	277	Angola	Southern Africa	3022	2.06
Maputo	18	287	Mozambique	Southern Africa	2915	13.86
Djibouti	19	290	Djibouti	Eastern Africa	2899	-3.95
Oran	20	293	Algeria	Northern Africa	2845	-5.08
Port Elizabeth	21	295	South Africa	Southern Africa	2827	0.09
Durban	22	303	South Africa	Southern Africa	2701	7.10
Alexandria	23	318	Egypt	Northern Africa	2553	-4.07
Addis Ababa	24	323	Ethiopia	Eastern Africa	2512	12.58
Port Harcourt	25	326	Nigeria	Western Africa	2470	-6.55
Kampala	26	335	Uganda	Eastern Africa	2377	8.38
Kigali	27	349	Rwanda	Eastern Africa	2302	11.21
Abuja	28	353	Nigeria	Western Africa	2294	10.19
Midrand	29	394	South Africa	Southern Africa	2000	-4.93
Khartoum	30	395	Sudan	Eastern Africa	1963	-15.80
Beira	31	403	Mozambique	Southern Africa	1886	-5.20
Pretoria	32	420	South Africa	Southern Africa	1615	11.27
Lusaka	33	425	Zambia	Southern Africa	1572	15.43
Mombasa	34	435	Kenya	Eastern Africa	1386	4.90
Kinshasa	35	440	Congo (DRC)	Central Africa	1363	-2.75
Gaborone	36	450	Botswana	Southern Africa	1139	-0.01
East London	37	453	South Africa	Southern Africa	1084	5.66
Sharm El-Sheikh	38	454	Egypt	Northern Africa	1076	1.01
Port Said	39	457	Egypt	Northern Africa	1022	-7.06
Windhoek	40	460	Namibia	Southern Africa	958	9.11
Harare	41	467	Zimbabwe	Southern Africa	415	-0.63
Walvis Bay	42	468	Namibia	Southern Africa	401	-6.10
Total	558	1325			582,789	

Source: Wall, 2017. Based on fDi Markets data



Shanghai leads the global rankings for inward investment, with Cairo, Africa's leading destination, only ranked 64th globally

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The global ranking reveals that Cairo (64th) and Johannesburg (69th) are doing quite well in the global investment arena. However, no African city is found within the top-10 FDI recipient cities of the world, as visible in the GIS map of the geographic distribution of FDI to thousands of global cities and towns worldwide (Map 2.1).

Map 2.1 illustrates the top-1,000 FDI transactions (grey linkages) between cities (2003-2016). The thicker the line, the more total FDI exchanged between a city pair. If we add up the inward (or outward) linkages of each city, total values can be expressed for that city. Total outward FDI city 'nodes' are coded green and represent investment sources (cities that invest in other cities), while blue nodes (cities that receive investment from other cities), represent total inward FDI. Clearly, cities can both transmit (green) and receive investments (blue).

The map illustrates that the top-1,000 global investments have predominantly taken place between regions in the Global North, particularly between Western Europe, North America and Asia and the Pacific. Most outward FDI is found in these regions, reflecting that these regions are economically powerful in the global context. In this sense, the map illustrates the asymmetric distribution of economic power in the world.

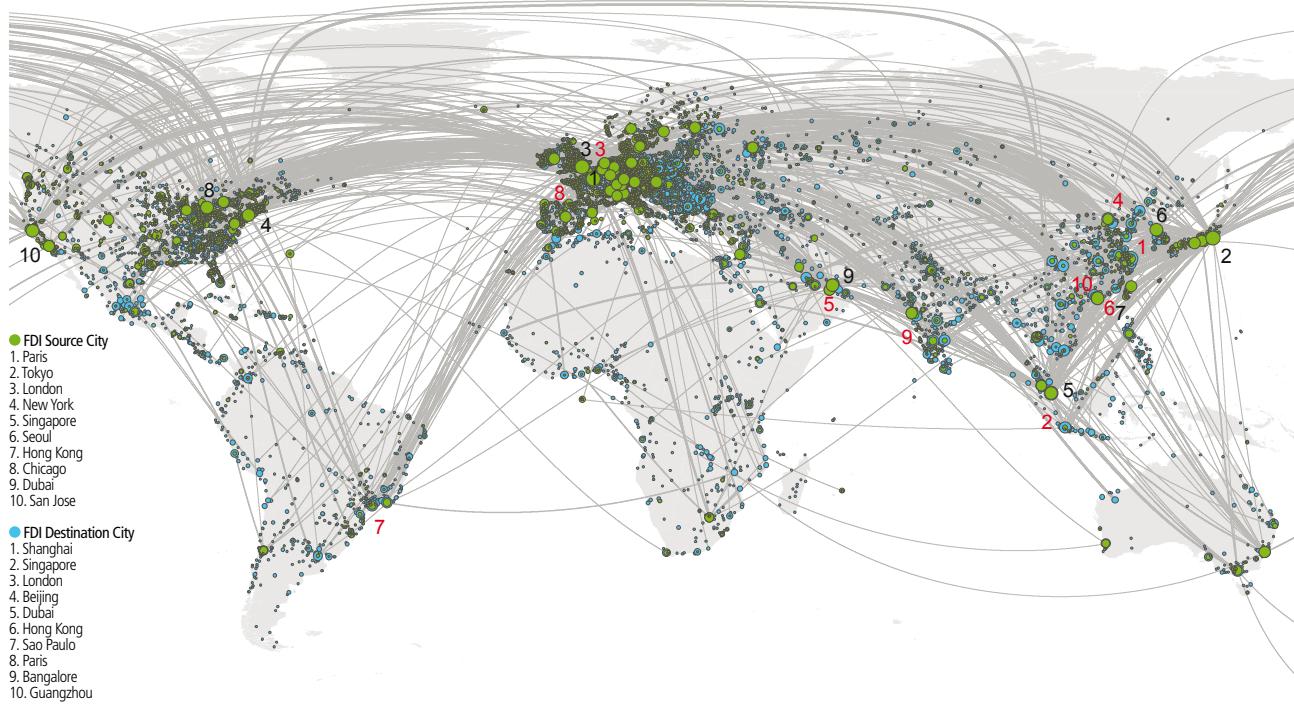
The Global South receives very little high-end FDI and Africa appears particularly disconnected from the key investment axes. Only Cairo and Johannesburg form anchor points in the global economic system, and a more detailed explanation for this is presented in Part C. Africa's low visibility in global investment flows is arguably not because the world intentionally excludes Africa, but is rather the outcome of a complex set of dynamics and conditions which negatively affect investor perceptions of the likely risk-adjusted rate of return on investment. These have already been discussed in the previous theoretical section and will be explored further in this chapter.

Map 2.2 also shows (in the legend) the top-10 global cities in terms of outward FDI (green nodes) and inward FDI (blue). As can be expected, Shanghai is the 1st city destination for global investors, followed by Singapore (2nd), London (3rd), Beijing (4th), Dubai (5th), Hong Kong (6th), São Paulo (7th), Paris (8th), Bangalore (9th) and Guangzhou (10th). Most of these high-ranking cities are in Asia, revealing the recent shift of global investor attention to this part of the world in terms of FDI in manufacturing of goods and related service industries. Among the cities with the power to invest in other global cities and



Paris is the largest investor globally in terms of outward investment by cities and it also heads the rankings for cities investing in Africa

Map 2.1. The top 1000 foreign investments between global cities (2003-2016)



Source: Wall, 2017. Based on fDi Markets data



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Among the cities with the power to invest in other global cities and exercise control over their production and markets, we find that the 'usual suspects' Paris (1st), Tokyo (2nd), London (3rd) and New York (4th) dominate the investment arena

exercise control over their production and markets, we find that the 'usual suspects' Paris (1st), Tokyo (2nd), London (3rd) and New York (4th) dominate the investment arena. New York, which held the top rank for outward investors in the latter half of the 20th century, has dropped three positions in global investment importance. This suggests a shift in global economic significance.

Related to this, we see a rise in importance of four cities: Singapore (5th), Seoul (6th), Hong Kong (7th) and Dubai (9th). Also, the FDI flows map suggests that the US cities of Chicago (8th) and San Jose (10th) (the capital of Silicon Valley) continue to play a significant role in the world economy. The

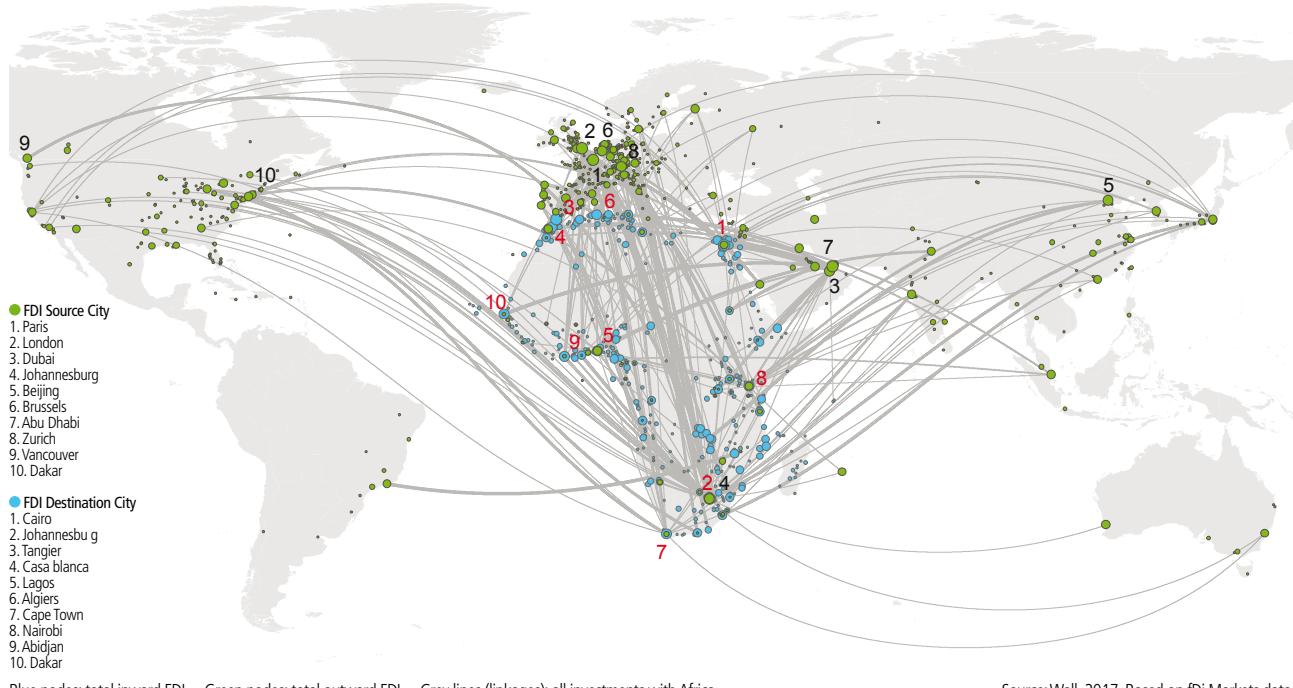
blue dots in Africa indicate that many African cities do receive global investments, albeit that these are in comparative terms small.

The GIS map (Map 2.2) depicts most of the FDI links from world cities (green nodes) into African cities (blue nodes). The map also reflects FDI flows from African cities (green nodes) into other African cities. From this map it is clear that the prime investment source region for Africa is Western Europe, followed by North America, and the Asia-Pacific region. Again, despite popular discourse on emergent South-South collaboration, there is little evidence of South-South investment flows into Africa, apart from one strong linkage from São Paulo. However, the data suggests that if the weakest FDI linkages are also shown, then more South-South ties would be visible. Even so, this is not indicative of strong economic exchange between these regions.

The FDI sources (green nodes) show which cities are the largest overall investors into Africa: Paris (1st), London (2nd), Dubai (3rd), Johannesburg (4th), Beijing (5th), Brussels (6th), Abu Dhabi (7th), Zurich (8th), Vancouver (9th) and Dakar (10th). Interesting is the fact that two of the top-ten source cities are in Africa, while four are in Europe. Again, we see reflected in the map the ranking of the top African FDI destinations (blue nodes) as evident in Table 2.2. It is also clear from the map that Johannesburg appears highly connected to the world economic system, while Cairo and other Northern African cities strongly connect with cities in the Middle East. This data was explored further by means of Gephi 'network analysis' software, as depicted in Map 2.3.

In this 'network graph', the distribution of FDI according to the network centrality metric 'betweenness' is shown. This is a complex mathematical measure of the strategic position of African cities within the global FDI system. The map is not based on spatial coordinates as in the case of GIS mapping but represents the mathematical distribution of investment data. The blue nodes denote the strategic strengths of African cities within the system, with Johannesburg (1st), Nairobi (2nd), Lagos (3rd), Cairo (4th), Lomé (5th), Dar es Salaam (6th) and Port Louis (7th). The measure indicates that most FDI in Africa passes directly or indirectly through these cities. In other words, these cities are the investment gateways into African economies. Impacts on the investment gateway function of any of these cities would have repercussions for the entire African FDI system.

Map 2.2. All FDI from global cities into African cities (2003-2016)



Source: Wall, 2017. Based on fDi Markets data

The red nodes represent investment source counties for African cities. The analysis suggests that these cities are grouped into three major functional regions. The first can be considered to be an Arabic/Northern African constituency (left), while the middle region generally represents a Sub-Saharan Anglophone super-cluster. Lastly, the third region is a rather odd cluster of mostly commodity port cities like Port Sudan, Richards Bay, Mossel Bay and Delta State.

If we just look at FDI only between African cities (Map 2.4), we see that the top-ten investors in Africa are: Johannesburg (1st), Casablanca (2nd), Lagos (3rd), Nairobi (4th), Cairo (5th), Port Louis (6th), Dar es Salaam (7th), Harare (8th), Lomé (9th) and Cape Town (10th). In turn, the top-10 receivers of African FDI are Cairo (1st), Johannesburg (2nd), Tangier (3rd), Casablanca (4th), Lagos (5th), Algiers (6th), Cape Town (7th), Nairobi (8th), Abidjan (9th) and Dakar (10th).

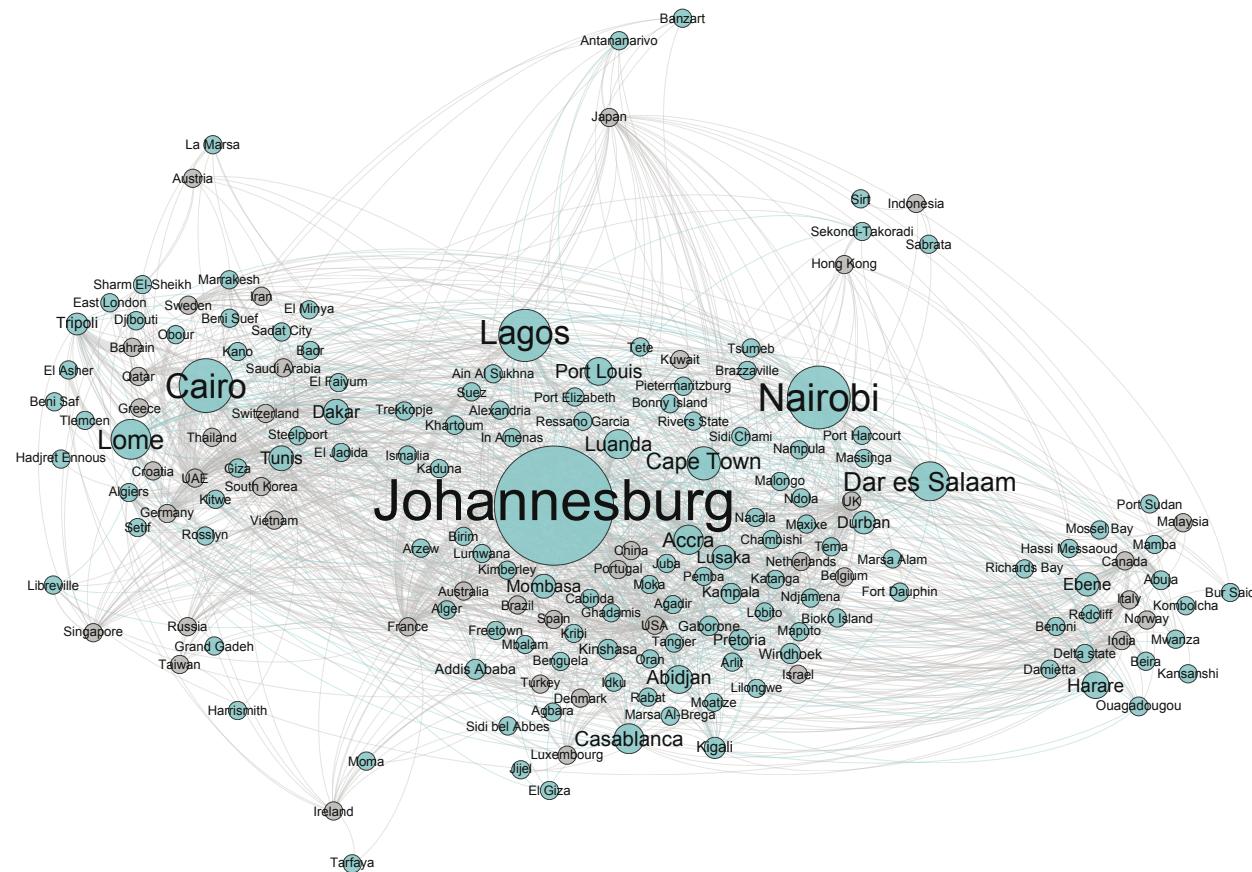
Next, also included in this map are countries colour coded by the market-strength of home-grown African multinationals. These are firms like South Africa's BHP Billiton, SAB-Miller, Naspers, or Morocco's Attijariwafa Bank, Morocco Telecom and Banque Marocaine du Commerce amongst others. The countries with the strongest presence of African MNCs are South Africa (1st), Morocco (2nd),

Egypt (3rd), Nigeria (4th), Kenya (5th), Tanzania (6th), Ghana (7th), Namibia (8th), Tunisia (9th), and Botswana (10th).

2.2. Results on FDI agglomerations in Africa

The next section looks at “heat-maps” of FDI in Africa, for total FDI, as well as the investment sectors of headquarters, hi-tech, manufacturing, services, and resources (Map 2.5). The maps are based on GIS interpolation techniques which predict the ‘hottest’ or most attractive (dark-red) to ‘coolest’ or less attractive (light-yellow) regions for FDI. In the first map (top-left) the core FDI agglomerations for total FDI are seen. The predominance of Northern African cities is evident, particularly the Nile River corridor (Cairo) and Atlas Mountains corridor. In Western Africa, the strong Gulf of Guinea regional corridor is evident. In the south of the continent, the Gauteng Province and associated corridors (the Johannesburg-Maputo-Durban FDI triangle) is prominent. A 5th emergent agglomeration is the Victoria Lake corridor, which includes the cities Kigali, Kampala, Nairobi, Mombasa and Dar es Salaam. Although this is a smaller region, it has the highest FDI growth rates of all. Besides these

Map 2.3. Network analysis map of the strategic positions of African cities within the global FDI system (2003-2016)



Turquoise nodes: the most strategically positioned African cities within global FDI networks
 Grey nodes: sources of FDI (countries)

Source: Salimgareeva and Wall, 2017. Based on fDi Markets data

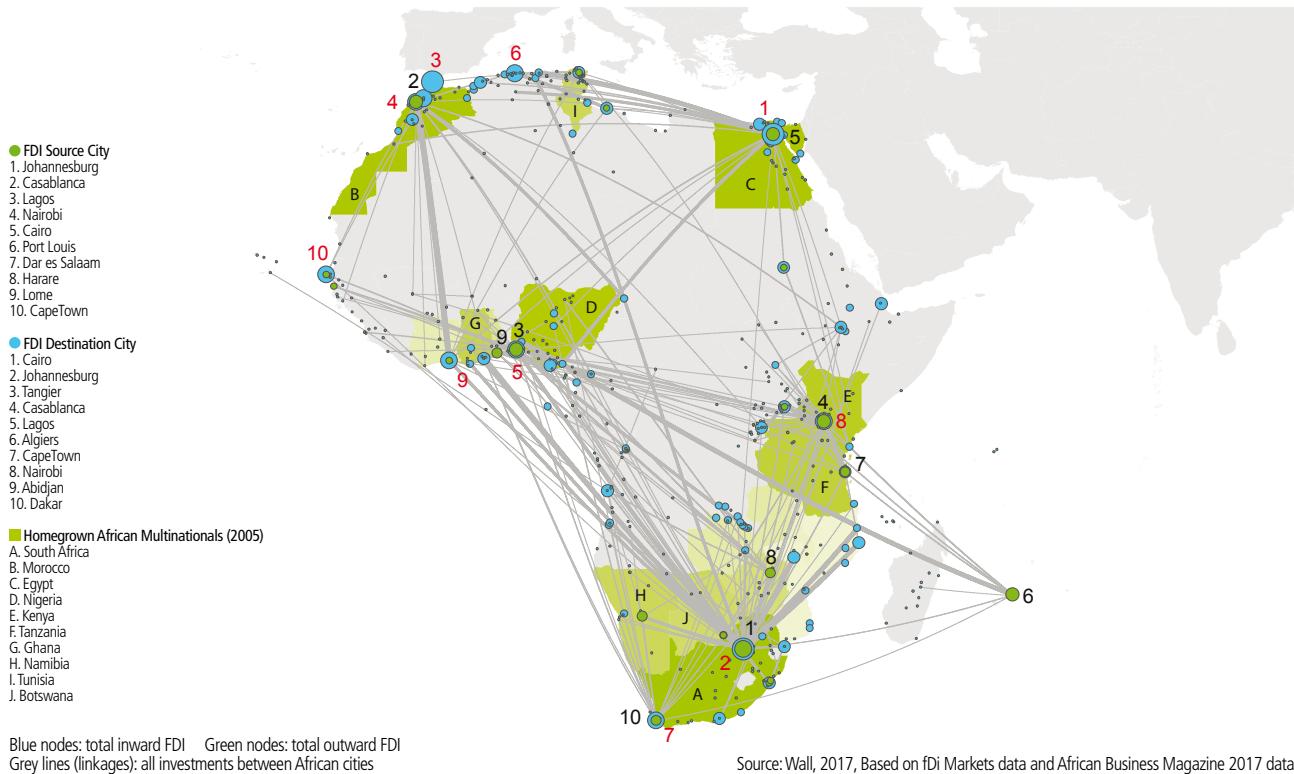
major FDI areas, there are several emerging FDI agglomerations like the Zimbabwe-Mozambique corridor and the Ethiopian cluster. Most investment agglomerations are close to oceans, river-deltas or lakes and it is clear that the inner core (particularly landlocked countries) receives very little investment.

The next map (top-middle) shows investments only into the establishment of foreign headquarters. Johannesburg stands out as the headquarters FDI capital of Africa, followed by Nairobi, Lagos and Cairo. The latter are also the cities with major financial centres, important business activity and international stock exchanges. Besides its historic connections with Europe, Johannesburg is characterized by modern infrastructure and a relatively conducive environment for both domestic and international firms that make the city attractive for foreign investment. (This is further explained in the Johannesburg case study in Part C of this report.)

Business and industrial clusters are catalysts for industrial growth in Africa because they help firms overcome growth constraints and also enable governments to address multiple constraints holistically

Business and industrial clusters are catalysts for industrial growth in Africa because they help firms overcome growth constraints and also enable governments to address multiple constraints holistically. Clusters promote knowledge sharing between firms, common infrastructure and services, pools of labour and raw materials as well as providing a larger market (African Development Bank Group, 2017).

Map 2.4. FDI between African cities (2003-2016)



An oil refinery in the Port of Lagos. Africa's major oil rich countries such as Nigeria take the lead in resources FDI

© Igor Groshev

Map 2.5. Heat-maps of FDI in African cities - for total FDI and various sub-groups (2003-2016)



Source: Levering and Wall, 2017. Based on fDI Markets data

The third map of Map 2.5 (top-right) illustrates hi-tech FDI in Africa. As is the case with headquarters FDI, these investments are concentrated in a limited number of locations i.e. the major manufacturing and innovation hubs of Africa. The Nile River corridor (Cairo) and the Gauteng Province corridor (Johannesburg) are particularly strong in attracting hi-tech investments. Cairo and Johannesburg are clearly Africa's most competitive cities for innovative industries due to their more developed human capital, larger market size and strong financial markets. All these factors are identified as determinants of knowledge FDI (see the relevant chapter of Part B in the online version of this report (Wall et al., 2018)).

These findings correlate strongly with the fourth map focusing on manufacturing FDI (bottom-left) and with the services FDI map (bottom-middle).

Cairo and Johannesburg are clearly Africa's most competitive cities for innovative industries due to their more developed human capital, larger market size and strong financial markets

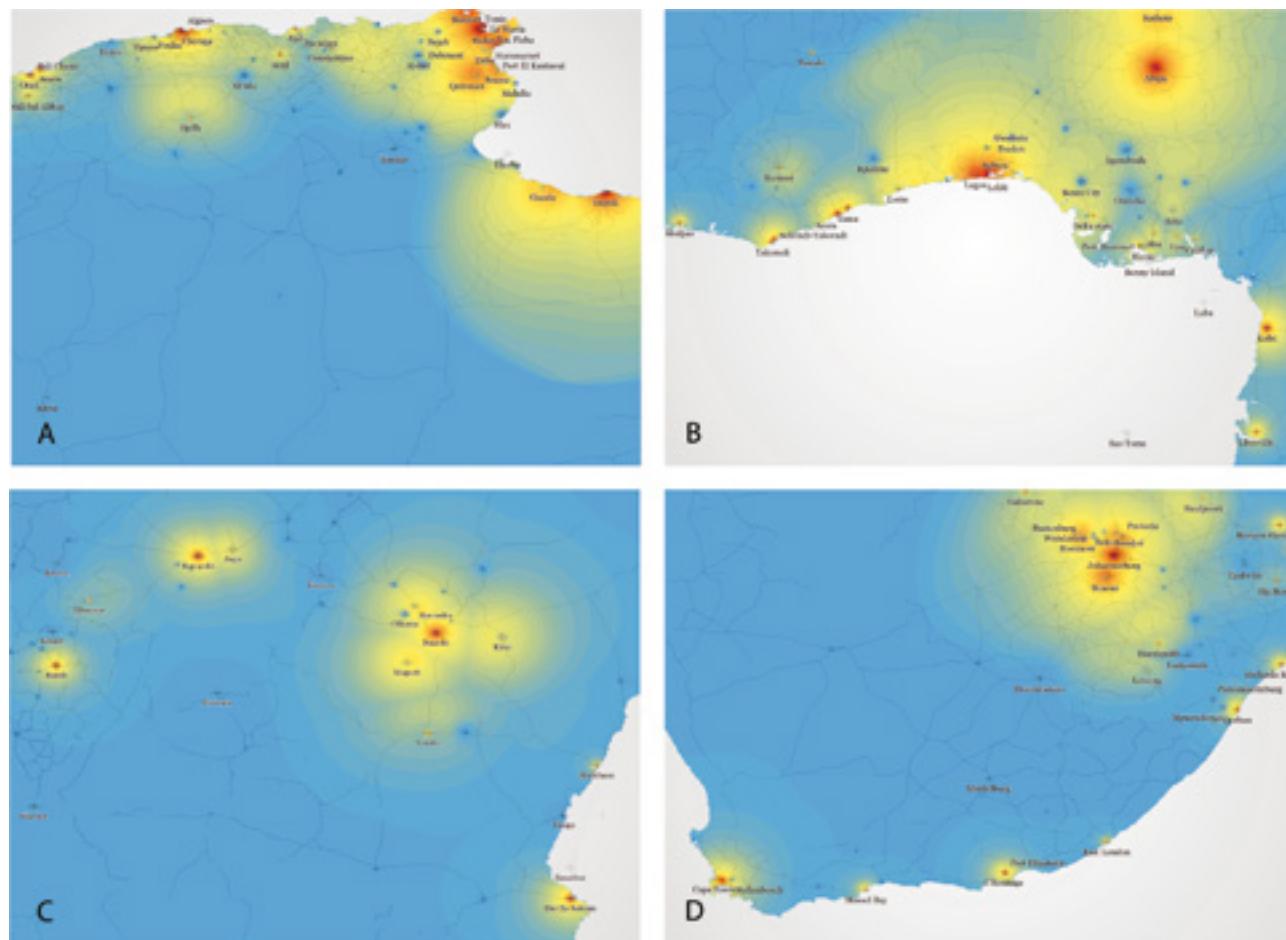
This confirms that business and financial services generally co-locate with manufacturing activities to provide capital and advanced producer services. It should be clear that investments in services are the most widespread of all FDI types in Africa, possibly reflecting provision of a diversified range of services to firms and public entities in many African cities.

The final map (bottom-right) concerns resources FDI, investments that target specific commodity production (e.g. oil, minerals, metals and agricultural commodities). The associated production facilities are generally located in rural areas rather than cities and this map therefore had to be generated at the country level. The geographic midpoint of each country was used to map the strength in investment in resources. For obvious reasons, Africa's major oil-rich countries take the lead in resources FDI: Angola (1st), Nigeria (2nd), Egypt (3rd) followed by mineral-rich South Africa (4th). Most African countries have some strength in resources investment, reflecting the world's interest in African commodities.

In the next section, based on the total FDI map (Map 2.5), we narrow the focus on four major African

FDI corridors (Map 2.6). The first one is the Atlas Mountain corridor (top-left) with prominent FDI cities like Algiers, Casablanca, Tangier and Tunis. Their proximity to Europe and strong relationship with Middle Eastern cities arguably explains this. The second is the Gulf of Guinea investment corridor (top-right) with key hub cities Abidjan, Abuja, Accra and Lagos, among several others. The third is the Victoria Lake corridor (bottom-left) including key cities like Dar es Salaam, Kampala, Kigali, Mombasa and Nairobi. Lastly, the Gauteng Province corridor (bottom-right) which extends from the primary agglomeration of Johannesburg to the port-cities of Durban, Maputo and Richards Bay. The map also indicates that Cape Town's economy is actually quite independent of the Gauteng conurbation.

Map 2.6. Heat-maps of four major African FDI corridors (2003 - 2016)



A: The Atlas Mountains corridor B: The Gulf of Guinea corridor C: The Victoria Lake corridor D: The Gauteng corridor
Source: Levering and Wall, 2017. Based on fDi Markets data

Next, we focus on FDI in the key cities of these four major African FDI corridors. The postal code address of each investment was mapped in GIS (Map 2.7) to reveal FDI clusters in individual districts of the four case study cities Abidjan, Cairo, Kigali and Johannesburg. This forms an interesting bridge between exogenous (originating from outside) FDI network information (e.g. Maps 2.1 to 2.4) and endogenous (originating from within) investment information at the urban level. This is important since it will be at this global-local nexus that the future of urban planning might lie, tying multi-scalar economic and urban data and information together. This is partially explored in the last section of this chapter, in which the urban determinants of FDI in Johannesburg's districts are econometrically investigated. In each of the four case study cities Abidjan, Cairo, Kigali and

Johannesburg, researchers have qualitatively and quantitatively deepened the understanding of the motives of investors and the actual determinants of FDI (see Part C of this report).

In the first map (top-left) we see FDI clusters in Cairo's districts, while the map at the top-right shows investment in Abidjan. The next map depicts Kigali (bottom-left) and FDI clusters in Johannesburg (bottom-right). It is clear from the maps that FDI concentrates in particular parts of the city and that there are clear patterns of investment. The detailed map on Johannesburg's investment (Map 2.7) shows this even more clearly. Quite obviously the unequal spatial distribution of FDI patterns are not random but driven by deliberate considerations. It would therefore be interesting for future research to explore factors and urban characteristics that cause this unequal spatial distribution.

Map 2.7. Heat-maps of FDI clusters inside the case study cities (2003-2016)



A: Cairo clusters (North Africa) B: Abidjan clusters (West Africa) C: Kigali clusters (East Africa) D: Johannesburg clusters (Southern Africa)
Source: Gorjux and Wall, 2017. Based on fDi Markets data

3. Trends in global FDI in African regions and countries



Northern Africa is the only region that experienced negative growth for FDI from 2003-2016 most probably due to political upheaval from the Arab Spring and oil market trends

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3.1. The trend of global and African FDI

In the previous section, the structure of FDI into Africa has been explored. This section examines the temporal dimension. That is, the historic trends in investments over the period 2003-2016. The objective is to better understand the characteristics of growth and decline in African FDI over time. This is done on a comparative basis with reference to global and continental FDI growth, as well as at various levels of aggregation within Africa i.e. the five African sub-regions, the countries, cities,

investment classes, sectors and activities. Lastly, findings of a study exposing the spatial reach of investment ties into Africa (FDI distance in kilometres) is examined to see whether international FDI into Africa, is becoming more regionally sourced or more global in origin. In other words, is the intra-African FDI network expanding or contracting?

Worldwide (see Online Appendix 1.1) global FDI into all parts of the world rose between 2003 and 2009, after which it declined until 2014. This was due to the 2008/9 global financial crisis and its aftermath. Subsequently,

global FDI started to rise again, as tentatively posited in studies such as the *World Economic Situation and Prospects* (WESP) report (United Nations, 2017).

Figure 3.1 shows that FDI into Africa followed the global trend, reinforcing the point that African economic prospects are impacted by developments in the global arena and that in an interconnected global economic system, shocks and fluctuations in economic activity are transmitted rapidly between countries.

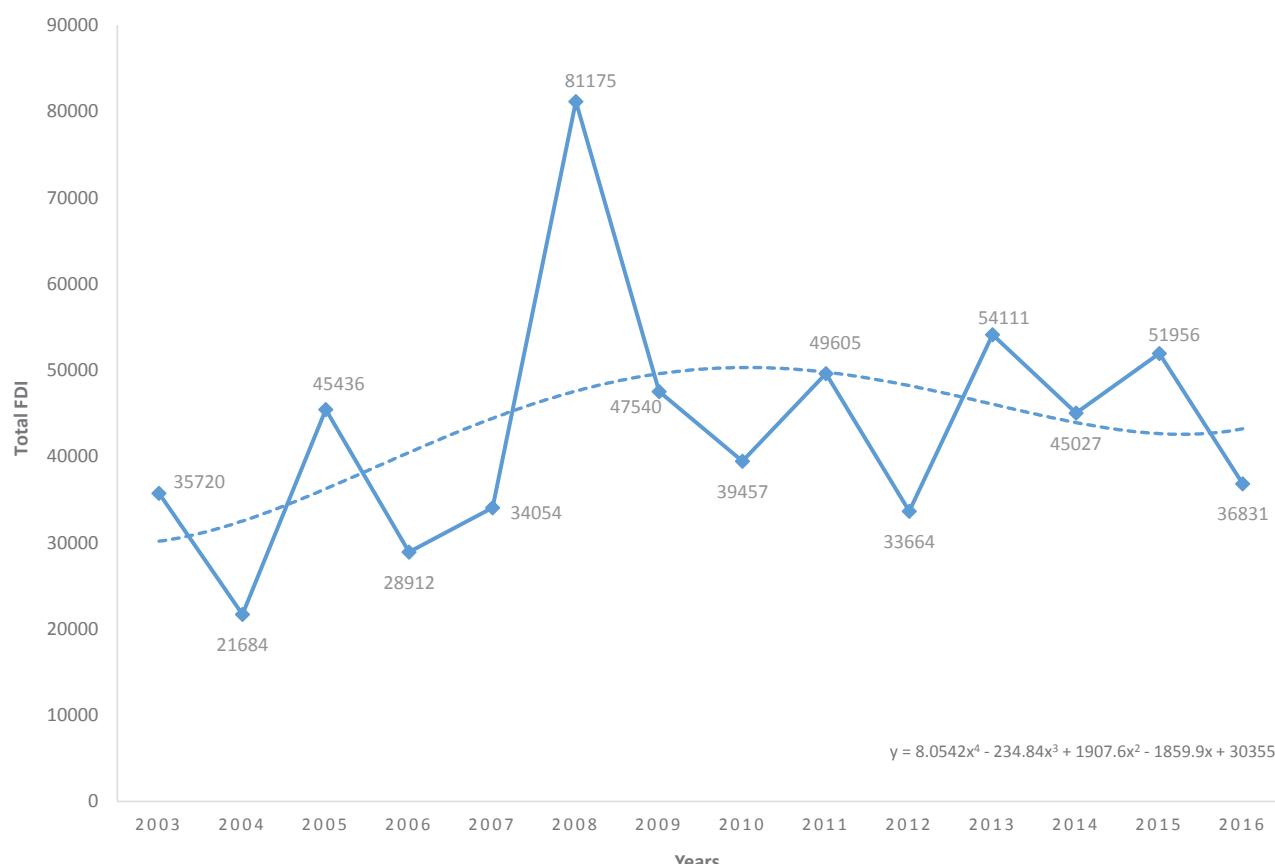
This becomes even more evident in the next chart (Online Appendix 1.1). Here we see that world FDI has had a moderately positive growth during this period. Africa is the continental region with the second highest positive growth rate (exponential growth), second only to FDI into North America. Nonetheless, its investment scale (size of blue dot), is the second smallest in the world. This is the opposite of FDI into Asia and Pacific, which is the largest in scale, but had

the lowest positive growth rate. Complementing these findings, the growth of FDI into all world regions is seen in Online Appendix 1.2.

3.2. The trend of global and African FDI

FDI dynamics in Africa's five regions (see Online Appendix 1.3) reveal that Northern Africa, although receiving the highest volume of FDI over the 2003-2016 period, is the only African region experiencing negative investment growth (-1%). This is probably due to the political and social upheavals in the region e.g. the Arab Spring, as well as global and oil market trends. At the other extreme, Eastern Africa, despite having the second lowest volume of FDI, has the highest growth rate (7.5%). This is most likely related to its low investment base and strong Asian and Middle Eastern investments. Strong FDI growth also occurred

Figure 3.1. The trend of FDI into Africa (2003-2016)



Blue dots: FDI over time (Dollars) Blue dotted line: the trend over time
Source: Wall, 2017. Based on fDi Markets data

in Western Africa (6.9%), driven by US investment - particularly in the extractive industries. The Southern African region is in third place, combining fairly strong FDI growth (5.1%) with the continent's second highest regional volume of investment. However, this is mostly the outcome of investments in South Africa. The Central African region has both the lowest positive FDI growth and smallest volume. If we consider country level FDI aggregation (Figure 3.2) it is clear that most countries with negative FDI growth rates (a decline in FDI flows) are in the Western and Northern African regions.

Countries with the highest positive growth rates are Ethiopia (1st), Côte d'Ivoire (2nd), Kenya (3rd), Mozambique (4th) and Rwanda (5th). However, these countries all have low volumes of investment. The continent's two strongest countries in terms of both FDI volume and growth rate are South Africa (1st)

and Egypt (2nd) followed at a distance by Morocco (3rd), Nigeria (4th) and Mozambique (5th). Egypt has the highest volume of investment but a moderately negative growth rate. The trend line in the graph reveals a positive relationship between FDI growth and volume over the 2003-2016 period.

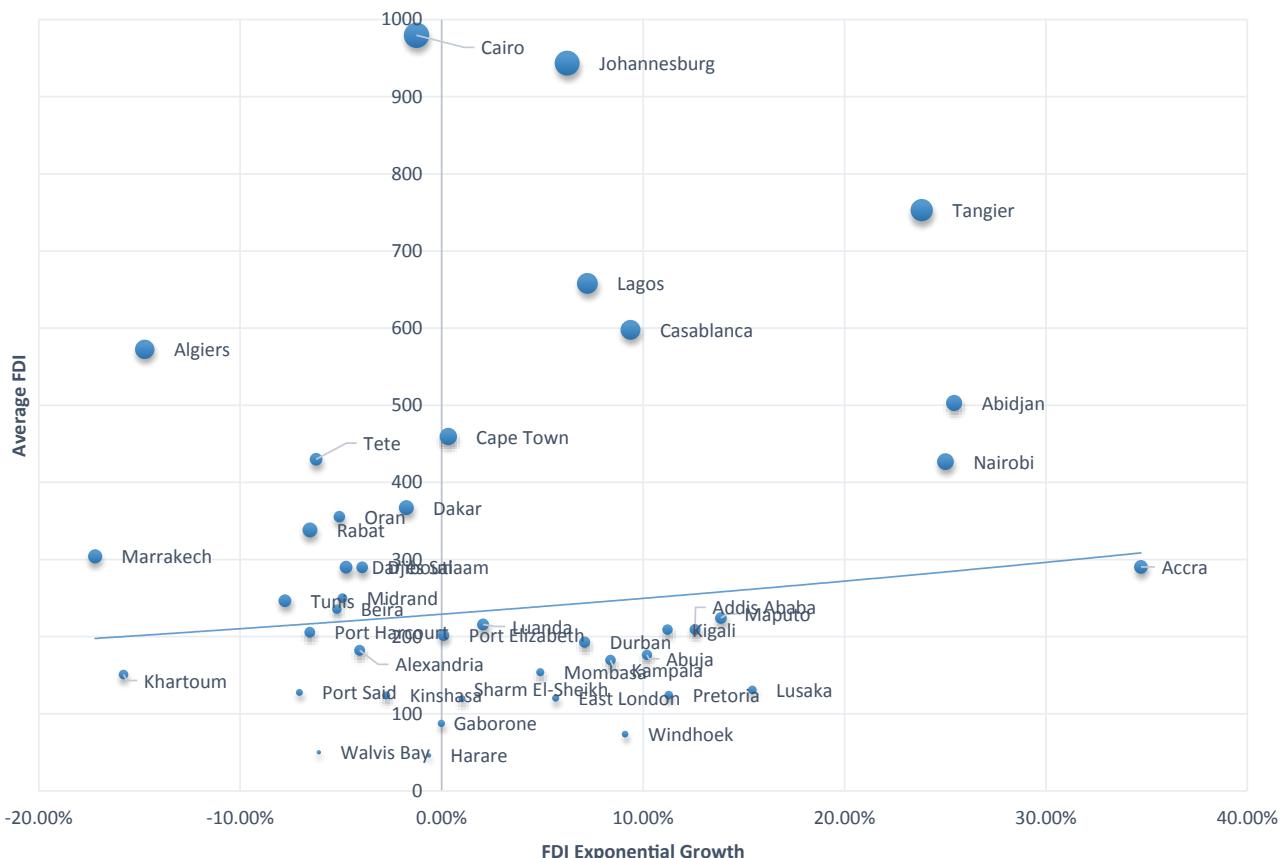
The lower urban aggregation level (see Figure 3.3) reveals that the highest FDI growth for cities is found in Accra (1st), Abidjan (2nd), Nairobi (3rd) and Tangier (4th). FDI flows declined most rapidly in Algiers, Khartoum and Marrakesh. In this context, it becomes clear that Johannesburg has the most balanced investment profile in Africa in terms of growth and volume, followed at a distance by Lagos, Casablanca, Tangiers and Cape Town. Here again we see the same growth slope as the previous chart indicating that, in general, FDI into African cities was positive over the 2003-2016 period.

Figure 3.2. The growth of FDI in African countries versus the average FDI (2003-2016)



Blue dots: average FDI (Dollars) X-axis: positive and negative FDI growth.
Source: Wall, 2017. Based on fDi Markets data

Figure 3.3. The growth of FDI in African cities versus their average FDI (2003-2016)



Blue dots: average FDI (Dollars) X-axis: positive and negative FDI growth.
Source: Wall, 2017. Based on fDi Markets data

3.3. African FDI trends by industries, sectors and activities

Trends of FDI industries

Using the same data on FDI into Africa we now focus on FDI flows into industries, sectors and activities. In the next chart (Online Appendix 1.4) we review African FDI according to four broad industrial aggregation categories: high-tech, manufacturing, services and resources FDI. These have been measured in terms of value of investments (USD) rather than the number of investments (count).

Most FDI into Africa has been in manufacturing. This the most anchored and stable FDI sector with substantial scale, albeit with moderate investment growth (5%). Resources FDI, although at a significant scale, has shown strong negative growth (-17%) over the 2003-2016 period. This correlates with the global

It should be noted that Africa is no longer simply a FDI destination for natural resource extraction but that a much wider spectrum of FDI is now being attracted into, amongst others, knowledge-intensive production and services

commodities cycle over the past decade, caused by rising global production capacity and slowing growth in demand that resulted in declining commodity prices worldwide. However, it should be noted that Africa is no longer simply an FDI destination for natural resource extraction but that a much wider spectrum of FDI is



FDI into the hi-tech sector had by far the biggest growth in Africa from 2003 to 2016

© Photosky

Figure 3.4. The growth of sectoral FDI into Africa versus the average FDI of the sectors (2003-2016)



Blue dots: average sectoral FDI (USD) X-axis = positive/negative sectoral FDI growth
Source: Wall, 2017. Based on fDi Markets data

now being attracted into, amongst others, knowledge-intensive production and services. The *African Economic Outlook* report (2017) states that FDI inflows into Africa during 2016 indicate investment diversification into services, manufacturing and infrastructure-related projects (African Development Bank Group, 2017).

FDI into the African hi-tech sector had by far the strongest rate of growth during the period observed. Nonetheless, it is also the sector with the smallest volume of investment and as shown in the continental GIS heat-map (Map 2.5), the least widespread investment sector in Africa concentrated primarily in key hi-tech cities like Cairo, Johannesburg, Lagos and Nairobi.

Trends of FDI sectors

In Figure 3.4 the FDI data is shown disaggregated into diverse industrial sectors. The highest industrial sector FDI rates of growth are in industrial machinery (suggesting rising productivity),

FDI into commodity sectors like coal, oil, gas, minerals and metals has been in decline. This can change, however, if and when commodity supply and demand come into better balance and the global commodity price cycle turns

warehousing and storage (reflecting growing trade activity), renewable energy (a positive development in the light of climate change) and consumer electronics, healthcare, communications and real estate (indicative of growing middle classes and rising consumer purchasing power).

FDI into commodity sectors like coal, oil, gas, minerals and metals has been in decline. This can

change, however, if and when commodity supply and demand come into better balance and the global commodity price cycle turns. Regardless, it is clear that African FDI is shifting from the primary to the secondary and tertiary sectors. That is a good development, even though it is still an open question how much of this more diversified FDI spills over into local economies

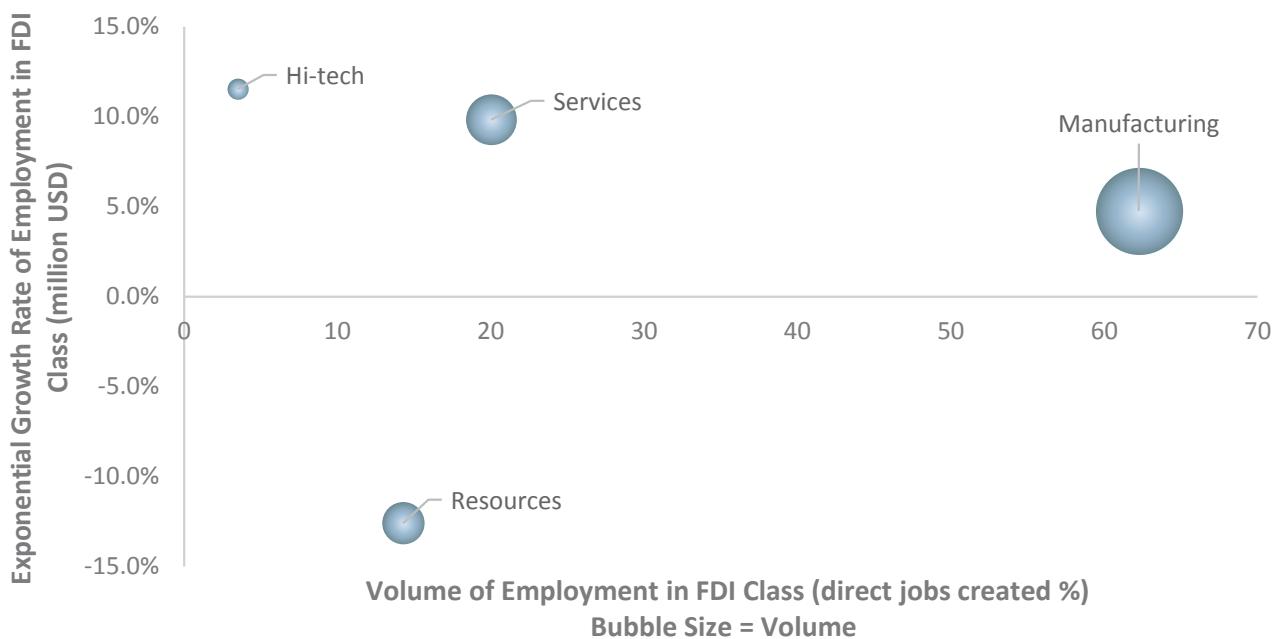
Whereas the data on investment in extraction units (commodities) show a declining FDI trend, they still receive the second largest volume of investment. This finding is in line with recent OECD research showing that non-resource-rich countries are becoming increasingly attractive destinations for FDI (see also Appendix 1). This is further confirmed by the *African Economic Outlook* report (2017), which also states that FDI is increasingly flowing towards non-resource-rich countries and sectors. In 2015, the five fastest growing African economies were all non-resource rich, with Ethiopia, Côte d'Ivoire and Rwanda leading.

Ethiopia, as part of its 2025 Vision Ethiopia, has focused on the development of industrial parks and promoting manufacturing (textiles, leather, agro-

Ethiopia, as part of its 2025 Vision Ethiopia, has focused on the development of industrial parks and promoting light manufacturing (textiles, leather, agro-processing and pharmaceuticals) to become a light manufacturing hub

processing and pharmaceuticals) to become a light manufacturing hub (African Development Bank Group, 2017). The highest volume of FDI activity is in manufacturing (production facilities) which has had moderate growth. (This will be elaborated on further in Part B in the chapter concerning FDI's impact on employment.) This type of FDI activity is most beneficial for economies in Africa, followed by investments in construction, and is consistent with productivity improvements in the economy and the development of urban areas through investment in the very housing, utilities supply and network infrastructures a developing economy needs.

Figure 3.5. African FDI classes – direct employment by growth and volume (2003-2016)



Blue dots: volume of employment X axis: growth of employment
Source: Wall, 2017. Based on fDi Markets data

Trends of FDI activities

Next, we examine the character of FDI into Africa in terms of activities (see also Online Appendix 1.5). This differentiates investments according to their activities (which is not the same as sectors) i.e. headquarters, sales and marketing offices; construction activities; ICT infrastructure; extraction plants; retail units or logistics hubs.

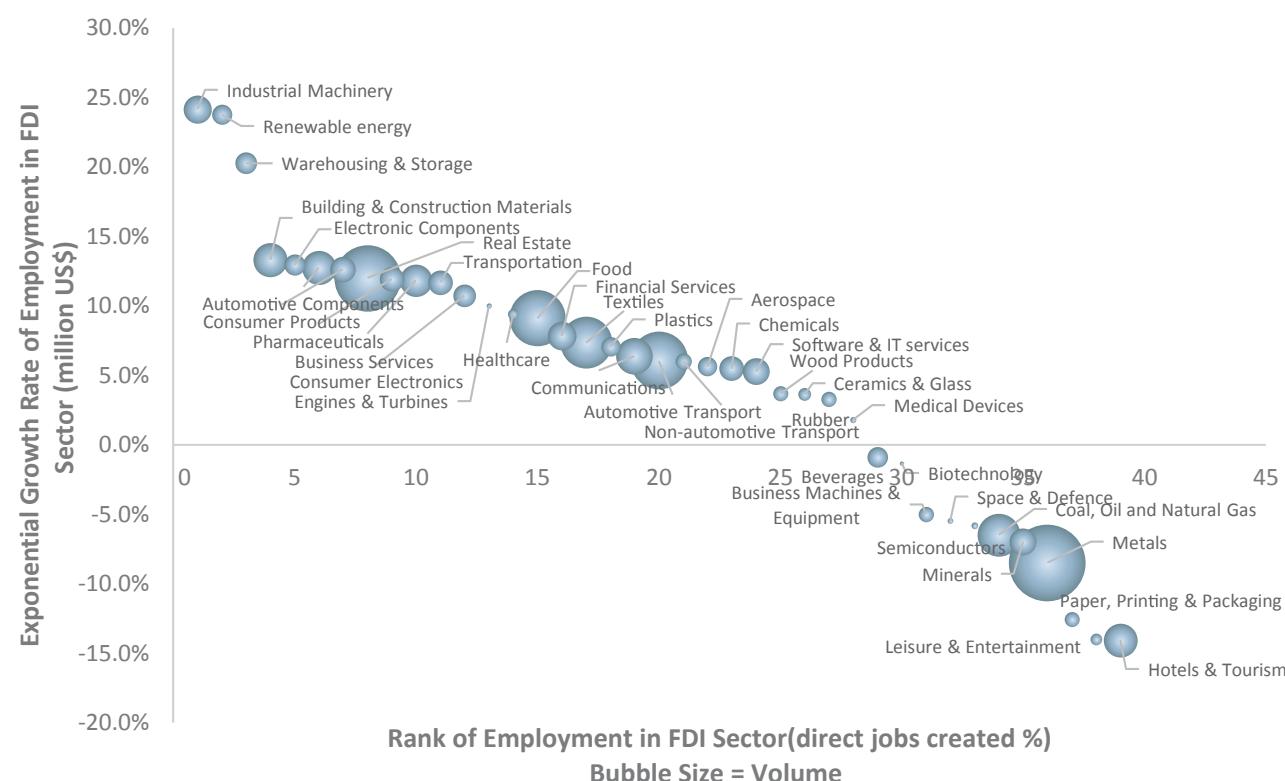
Successful outcomes for Africa's future economic development under rapidly progressing urbanization depend firstly on an adequate supply of energy. FDI into ICT development has the second highest rate of growth and also has high investment volumes indicating that the development of advanced ICT networks in Africa is now a priority area. Logistics, distribution and transportation is the third highest FDI growth sector, indicating that African trade interconnectedness within countries and regions, but also offshore is improving. Business services, sales and marketing, and retail activities also have high FDI growth rates in response to the opportunities arising from growing populations,

accelerating urbanization and the associated growing urban middle classes with increasing household purchasing power. More retail outlets are required as sales and marketing activities of consumer products increase, while more business services are needed to facilitate the increasing complexity of this activity and related industrial production.

3.4. Beneficial FDI for Africa—sectoral employment growth

The creation of employment for poverty reduction is a key objective in many African development studies (The African Union's Agenda 2063, UN-Habitat's New Urban Agenda (2016), AfDB's 2013-2022 Strategy and the UN's SDG 1, among others). It is therefore arguable that, whenever FDI generates high levels of employment, this would be beneficial to achieving the stated poverty reduction goals. This section will firstly discuss employment volumes in the major aggregation classes (hi-tech, services, manufacturing and resources),

Figure 3.6. African FDI sectors—direct employment by growth and volume (2003-2016)



Blue dots: volume of employment X axis: rank of employment
Source: Wall, 2017. Based on fDi Markets data

followed by more detailed analysis of 39 sectors of FDI employment growth over the period 2003-2016. It is important to note, however, that the analysis focuses only on jobs directly created by multinationals in these classes and sectors and does not take into account the spill-over of indirect employment generated.

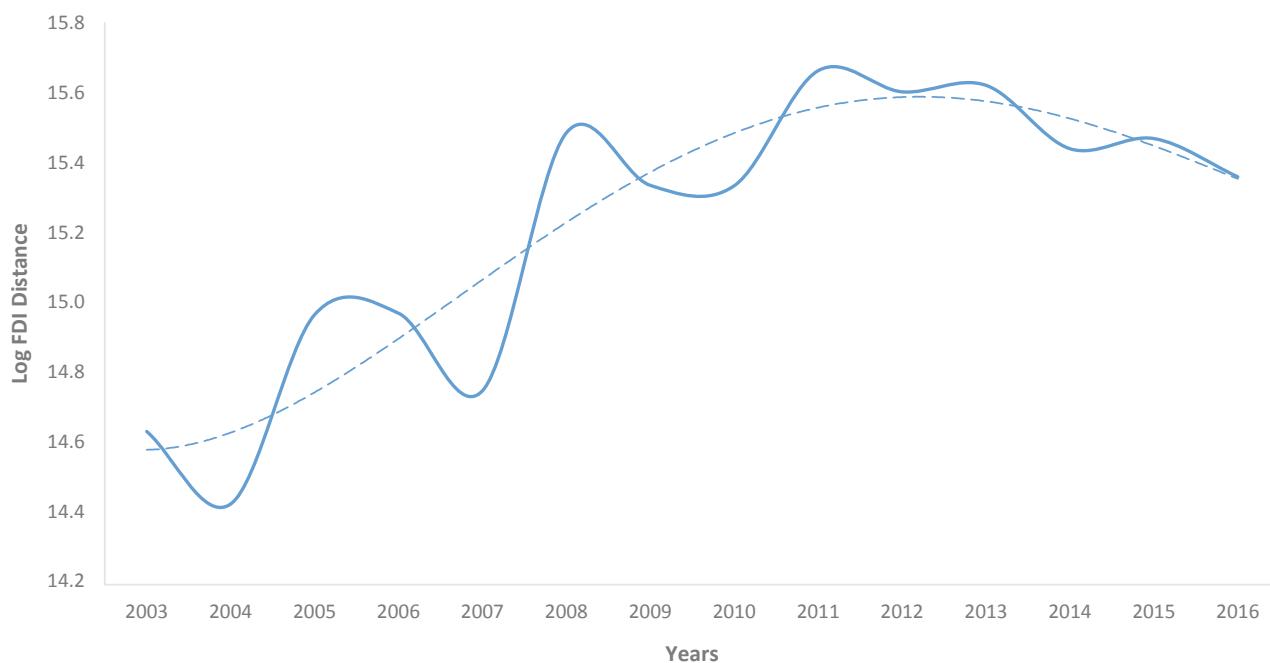
The scatterplot of Figure 3.5 shows the performance of the four major classes (hi-tech, services, manufacturing and resources) by employment growth and volume. It is evident that in Africa the hi-tech sector has the most rapid employment growth rate despite having the smallest employment number. This implies that, relative to the other classes, hi-tech only generated a limited number of direct jobs (most likely for high-end employees) over this period. For both the pre-recession (2003-2009) and recession (2010-2016) periods, a relatively stable and positive growth is recorded. Thus, in terms of stability in volatile times hi-tech can be an interesting sector for African governments to seek future FDI. That is moreover so, since it can also boost much needed technological innovation in African countries. Kaur et.al (see also part B of this report) also show that hi-tech FDI has the potential to reduce income inequality in African countries, particularly

It is evident that in Africa the hi-tech sector has the most rapid employment growth rate despite having the smallest employment number. This implies that, relative to the other classes, hi-tech only generated a limited number of direct jobs over this period

through backward linkages with the manufacturing sector. It would be interesting to explore in the future the spill-over effect that the hi-tech sector can have on local business and related employment. Nonetheless, in terms of direct employment, the volumes are limited and do not adequately challenge the dire unemployment in Africa.

Figure 3.5 further shows that the services sector has employment growth rates similar to hi-tech, but with a far greater volume of employment (second largest of the four categories). On the other

Figure 3.7. The geographic reach of FDI into Africa (2003-2016)



The solid blue line: the total distance of investments (km) The dotted line: the trend over time
Source: Wall, 2017. Based on fDi Markets data



Medium-sized cities like Mombasa need to focus their strategies on national and regional investment

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hand, services' direct employment has declined quite sharply from 18.2% in 2003-2009 to 2.2% in 2010-2016. Although the attraction of services FDI may appeal to governments, it is likely to be more difficult to realize.

FDI into manufacturing saw good growth over the entire period (4.8%) and had the largest volume of employment (62%), making it a very attractive sector. Indeed, manufacturing FDI is the most important for reducing income inequality in African countries (see also Part B), since it tends to generate a lot of employment and has the potential to accelerate industrialization in Africa by means of backward and forward linkages with other sectors. Nonetheless, its sharp drop from 17.4% growth in 2003-2009 to 0.4% in 2010-2016 should be taken into account. More recently, investors have been reluctant to invest in this sector and it may be less easy to attract them in the future.

Lastly, Figure 3.5 shows that FDI into resources has experienced a strong negative growth (-12.6%) over the 2003-2016 period. Even when we look at its pre-recession boom phase, employment in resources initially decreased a moderate -4.9% but next escalated to -23.3% in the recession period. Besides this, the resources sector's volume of employment is the second smallest of the four classes. These developments are very much related to the drop in commodity prices over the past years. Moreover, FDI in the resources sector typically only generates two jobs per USD million FDI (see Wall, Mehta and Kaur). Resources FDI is also likely to be difficult to attract when the global commodity price is low, besides its very limited benefit to employment generation. An arguably positive aspect of the foregoing would be that resource-rich countries are forced to diversify into manufacturing, services and hi-tech branches.

Next, the same type of analysis is applied to the more detailed sectoral level. The table in Online Appendix 1.5 (bottom part) shows volumes and exponential growth rates of employment in diverse FDI sectors. This should be read in conjunction with the scatterplot of Figure 3.6. It shows that hi-tech FDI, renewable energy, pharmaceuticals, engines and turbines, as well as software and IT, generate the highest employment growth rates in Africa, although the employment volumes are modest. Within manufacturing FDI (Figure 3.6), industrial (machinery, building and construction, electronics components, automotive components, consumer products, real estate, consumer electronics, food, textiles, plastics and automotive industries), real estate, food, textiles and automotive industries are especially interesting for providing large volumes of employment.

In the services sector (Figure 3.6), warehousing and storage, business services, transportation, healthcare, financial services and communication all have high growth rates of employment. Communications, financial services and business services are particularly interesting with similarly respectable volumes of employment. Lastly, resource sectors FDI have experienced very negative growth in Africa, particularly coal, oil and natural gas, minerals, and metals. Metals do however maintain a very high volume of employment (15.9%) and, therefore, remain interesting for development policy towards poverty eradication.

3.5. The global reach of FDI into Africa

Because every investment takes place between an international city and an African city, the physical distance of the investment (in km) can be established. For instance, an investment from Shanghai into Nairobi takes place at a much longer distance than an investment from Johannesburg into Nairobi. If we add up all the investment distances to a city like Nairobi and then take the average, we get a measure of the “global reach” of investment into Nairobi. This can be calculated for each year and, if plotted in a graph, will depict whether the average investment into Nairobi is increasingly from closer or more distant sources. If this is done for all cities in world, an indicator of global reach can be plotted. This is shown in the graph (see Online Appendix 1.6).

The average global reach of FDI in the world increased from 2003 to 2011 but it has gently declined since then. This implies that investors have

been globalizing through direct investment into increasingly distant centres. As a consequence, widely flung cities have become more globally connected. The declining trend since 2011, however, could in part be the result of lower risk appetite in the aftermath of the global financial crises and in part due to geopolitical tensions and political instability within some parts of the world. The recent re-emergence of economic nationalism in some key economies could mean more bilateralism in globalization dynamics.

The average global reach of FDI in the world increased from 2003 to 2011 but it has gently declined since then. This implies that investors have been globalizing through direct investment into increasingly distant centres

In the graph in Figure 3.7, we see that the average global reach of FDI into Africa clearly followed the global trend. Between 2003 and 2011, investments into Africa increasingly came from more distant sources. Since 2011, however, there has been a mild reversal of this trend. From the Smart City study by Wall and Stavropoulos (2016) (see Part B of the online version of the report) it is clear that the higher the global reach of a city within the world FDI system, the higher the level of city smartness. This is arguably because the economically largest multinationals are not constrained by distance and hereby have the ability to invest across the globe, while smaller firms tend to operate more regionally. The above findings indicate that municipalities should develop stringent international marketing strategies for attracting investors through, for instance, investment promotion agencies (IPAs), smart procurement agencies (SPAs) and competition commissions. The aim should be to increase the global and regional portfolio of foreign investors into their city. International hubs like Cairo, Johannesburg, Lagos and Nairobi should focus more on both global and African continental expanse e.g. SADC and ECOWAS. Medium-sized cities like Durban and Mombasa, in contrast, should be more geared to improving national and regional investment expansion.



Healthcare has experienced one of the highest rates of growth in FDI in Africa

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4. Forecasts of global FDI into African regions and countries



A concentration of FDI in extractive industries (e.g. the oil sector), can render economies susceptible to illegal financial and economic leakages

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4.1. Introduction to forecasting

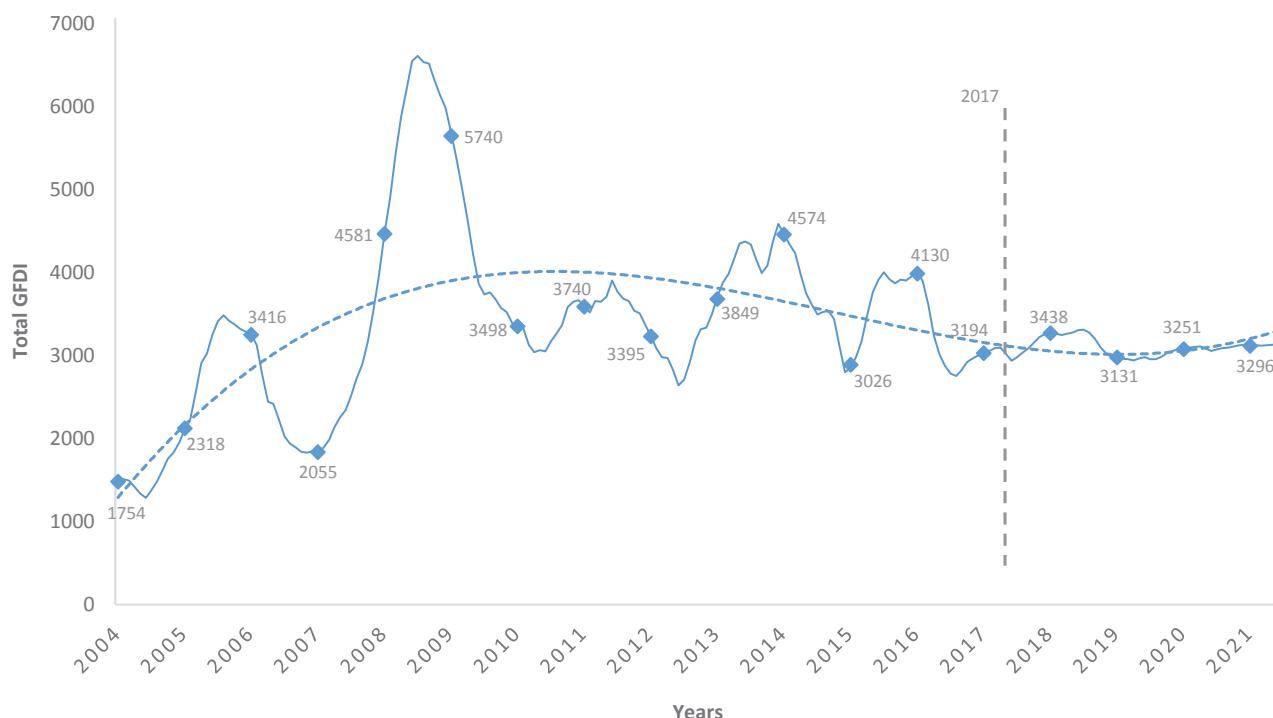
Where the previous section has explored the trends of FDI into Africa, this section will go a step further, using ARIMA models for the forecasting section of this chapter. Although these models will not be explained here as that would go well beyond the scope of this report, those that are interested are referred to Online Appendix 1.7.

Although FDI flows have expanded remarkably since the 1990s in all sub-regions of Africa, growth in investment has differed significantly between regions and sectors (Suleiman et al., 2013). Historically, Northern Africa has performed better in attracting FDI than the other regions, arguably because of its natural resource endowment and its proximity to Europe. In the southern region of Africa, South Africa has significantly outperformed its neighbours in capturing investment (Mijiyawa, 2012). Other countries receiving a comparatively large share of FDI are Algeria, Angola, Morocco and Nigeria (Dupasquier and Osakwe, 2005). Initially, FDI flows into the continent concentrated largely on resources, making this sector the largest recipient of FDI in African economies (Suleiman, 2013).

Historically, Northern Africa has performed better in attracting FDI than other regions, arguably because of its natural resource endowment and its proximity to Europe

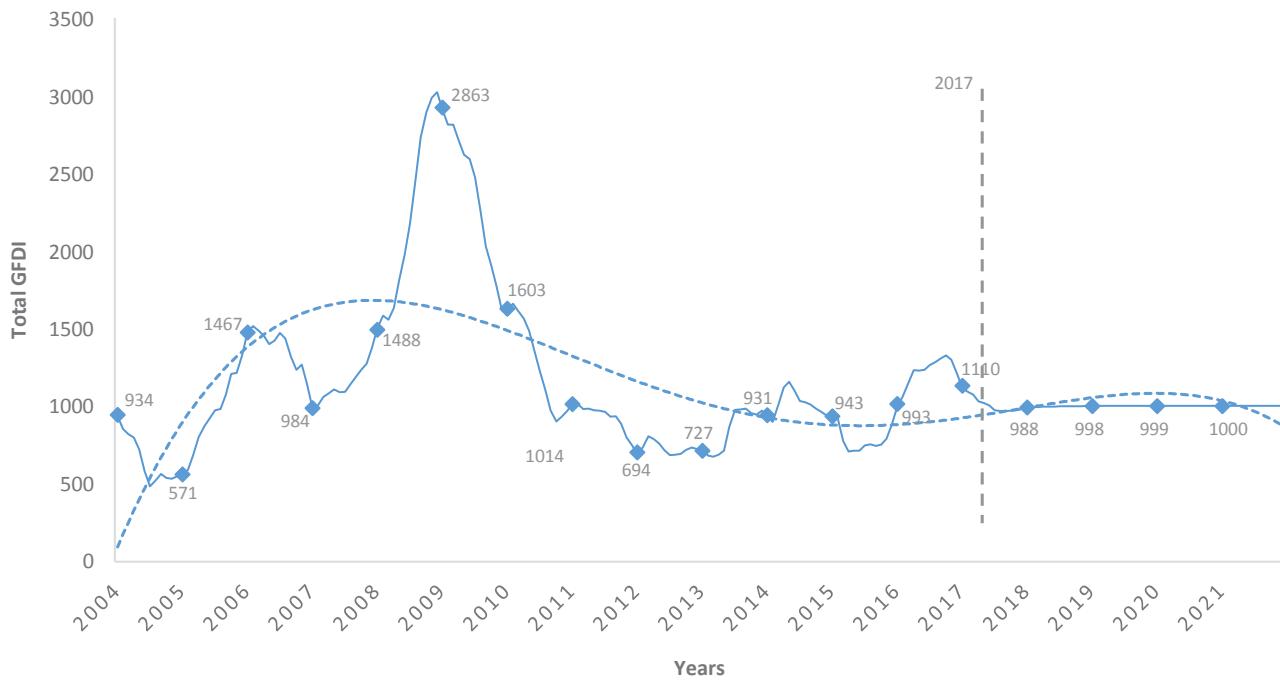
Although FDI growth in Sub-Saharan Africa is said to be resilient (Beny and Cook, 2009; Andersen and Jensen, 2014), no consensus has been reached on the sustainability of FDI-fed growth patterns (Arbache and Page, 2010; Barbi and Costa, 2016). Moreover, a concentration of FDI in the resources sector, especially the extractive industries (e.g. the oil sector), can render economies susceptible to illegal financial and economic leakages and sub-optimal development of domestic economic linkages. This inhibits economic growth (Adams, 2009) and balanced economic development. A shift in FDI emphasis away from the (primary) resources sector to the secondary and tertiary sectors can therefore increase

Figure 4.1. Forecast of FDI into Africa (2004-2021)



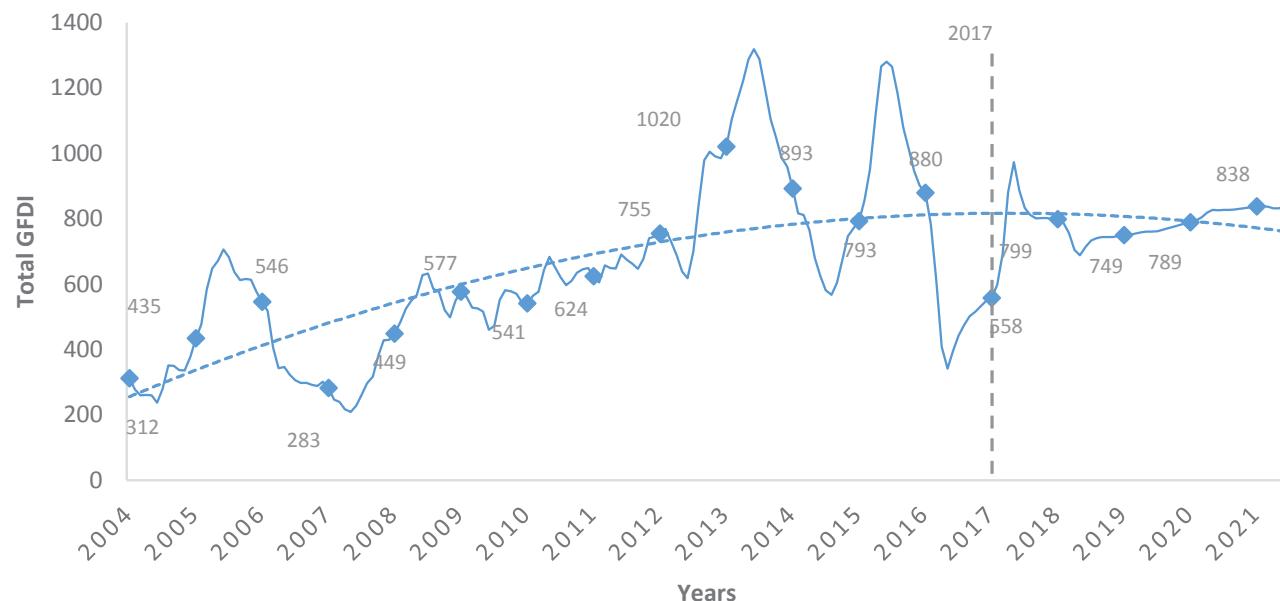
Source: Rutten and Wall, 2017. Based on fDi Markets data

Figure 4.2. Forecast of FDI into Northern Africa (2004-2021)

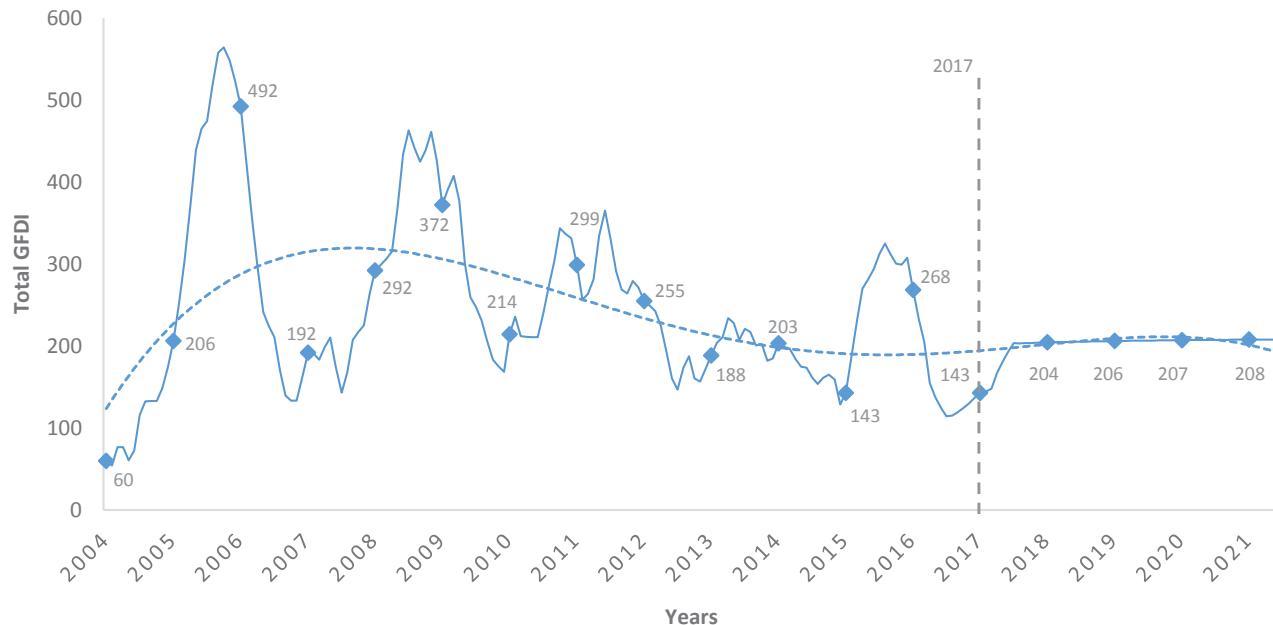


Source: Rutten and Wall, 2017. Based on fDi Markets data

Figure 4.3. Forecast of FDI into Western Africa (2004-2021)



Source: Rutten and Wall, 2017. Based on fDi Markets data

Figure 4.4. Forecast of FDI into Central Africa (2004-2021)

Source: Rutten and Wall, 2017. Based on fDi Markets data

the developmental impact of FDI (Akinlo, 2004). Hence, in this section, by forecasting FDI flows for different core sectors (classes) and the five key African regions, insight can be gained into the likely future distribution of FDI inflows and assist policy makers in economic planning and strategy development.

4.2. FDI forecasts for Africa and its five key regions

FDI into Africa

Figure 4.1 shows how the trend of FDI flows into Africa has fluctuated over time (solid dark blue line). The time series-based modelling indicates that, over the five years until 2021, total FDI into the continent is expected to increase modestly. However, this refers to the whole of Africa and predictions also differ greatly between regions and sectors. (Online Appendices 1.8 to 1.47). Whereas towards the end of the 1990s African FDI was concentrated mostly in the primary sector, investments clearly shifted towards the secondary and tertiary sectors thereafter (Mwilima, 2003). The increase of FDI into these sectors has arguably contributed to the economic growth of African cities and possibly also to more sustainable forms of economic growth and

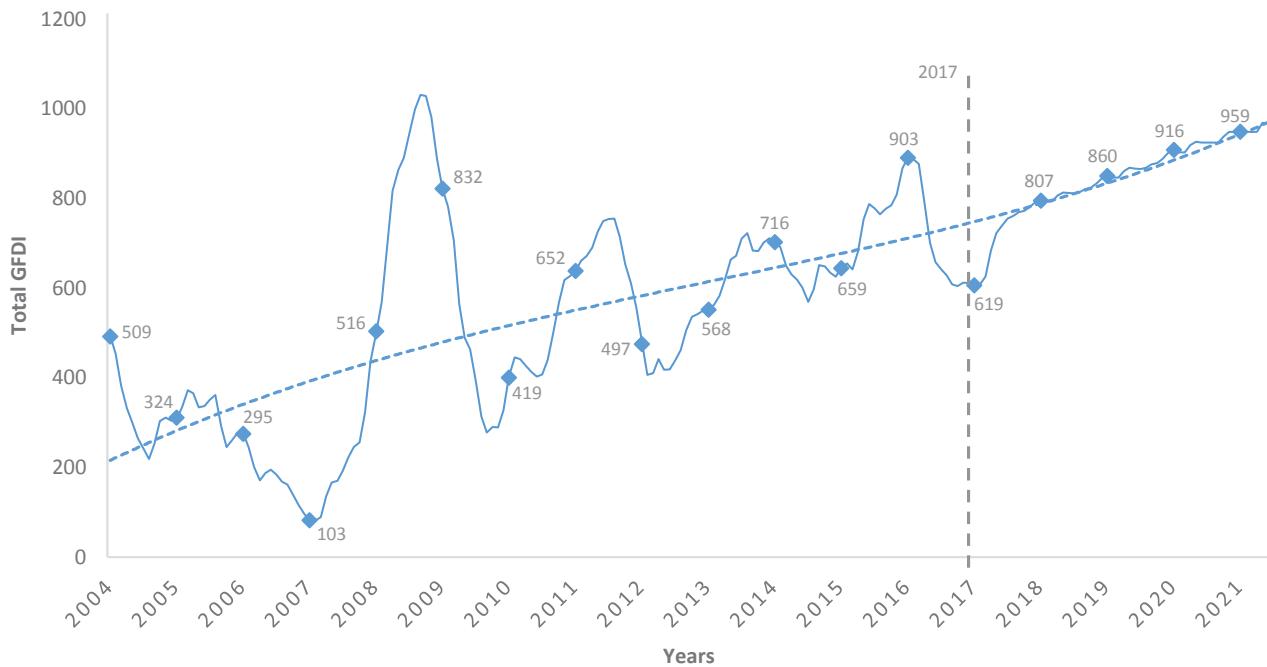
FDI into the Services and Manufacturing Sectors is likely to maintain stable growth while FDI into the Resources sector will grow only slowly

development. The probability of the latter outcome can be increased if African governments commit themselves to policy reforms attracting types of FDI that promote economic sustainability and generate jobs, especially in the secondary and tertiary sectors (Adams, 2009; Suleiman et al., 2013). The analysis also suggests that FDI into the African hi-tech sector should expand dramatically (see Online Appendix 1.8). Furthermore, FDI into the services and manufacturing sectors is likely to maintain stable growth (see Online Appendices 1.11 and 1.9) while FDI into the resources sector will grow only slowly. (See Online Appendix 1.10).

FDI into Northern Africa

The Northern African region had the highest volume of FDI and it is expected to remain stable over the

Figure 4.5. Forecast of FDI into Eastern Africa (2004-2021)



Source: Rutten and Wall, 2017. Based on fDi Markets data

Figure 4.6. Forecast of FDI into Southern Africa (2004-2021)



Source: Rutten and Wall, 2017. Based on fDi Markets data

coming years (Figure 4.2). Growth in FDI in the region is mostly expected to be in the hi-tech (Online Appendix 1.12) and services sectors (Online Appendix 1.15), while for resources, growth will be modest. The services sector is likely to overtake the manufacturing sector as the main recipient of FDI in the region (Online Appendix 1.13). The overall trend of foreign investment into the region has been negative and this will continue for parts of the region. This is likely the outcome of enduring impacts of the Arab Spring on Northern Africa FDI and the region's persistent relative dependency on its oil endowment despite the beneficial proximity to EU markets. FDI into Algeria (Online Appendix 1.34), Libya (Online Appendix 1.36) and Tunisia (Online Appendix 1.35) will remain relatively low in future, while FDI into Egypt (Online Appendix 1.32) and particularly Morocco (Online Appendix 1.33) is likely to recover from the global financial crisis and regional political instability.

FDI into Western Africa

FDI into the Western African region has increased since the financial crisis of 2008, a trend that is expected to continue (Figure 4.3). Investments into the hi-tech (Online Appendix 1.16) and manufacturing sectors (Online Appendix 1.17) will expand relative to other sectors, while the manufacturing sector will continue to have the highest absolute value of FDI. The declining trend in resources FDI (Online Appendix 1.18) is expected to continue with investment stagnation in the resources sector despite the historic importance of the region's oil sector in attracting FDI. Investments into the Western African region's services sector (Online Appendix 1.19) are projected to decline unless conditions change (e.g. better regional integration, less corruption and more transparent governance).

For Nigeria, the largest economy in the region, FDI is expected to increase despite its recent decline (Online Appendix 1.37). Since 2010, FDI into Côte d'Ivoire has risen and is expected to continue (Online Appendix 1.38). Although FDI into Ghana increased from 2010, it began decreasing from 2014, a trend that is expected to persist over the next five years (Online Appendix 1.43).

FDI into Central Africa

FDI growth in Central Africa has stagnated over the past 10 years and is expected to stay at

current levels. Central Africa is the region with the smallest share of FDI flows (Figure 4.4). The level of FDI into the manufacturing (Online Appendix 1.21) and services sectors (Online Appendix 1.23) will remain stable, while FDI into the resources sector will continue to decline (Online Appendix 1.22). FDI into the hi-tech sector has been sparse and is not expected to grow much over the next five years (Online Appendix 1.20). The slight downward trend of Democratic Republic of Congo FDI will likely continue (Online Appendix 1.39), while FDI into Rwanda is expected to increase, making it one of the more promising economies in the region (Online Appendix 1.40).

FDI into Eastern Africa

Total FDI into the Eastern African region has grown consistently since 2000. The forecast suggests this trend will remain positive and FDI into the region will increase (Figure 4.5). The manufacturing sector (Online Appendix 1.25) will continue to have both the most investment and a positive growth trend. FDI into the services sector will experience the highest rate of growth over the coming five years (Online Appendix 1.27), whereas FDI in the resources sector will continue to decline (Online Appendix 1.26). FDI into Kenya is expected to grow further over the coming five years (Online Appendix 1.41). In Ethiopia, a country that has only attracted significant investments since 2014, FDI is expected to stay at its current level (Online Appendix 1.42). Tanzania's FDI is expected to grow further, but it has been highly volatile over the past decade and a significant acceleration is difficult to foresee for the near term (Online Appendix 1.44).

FDI into Southern Africa

Based on the time series analysis, FDI is anticipated to rise marginally in Southern Africa, suggesting a tentative recovery from the decline of investments that occurred in 2014 (Figure 4.6). The trend of FDI into the services sector is foreseen to be the most promising, followed by the manufacturing sector. Hi-tech FDI in Southern Africa should increase modestly, while FDI into the resources sector is expected to strongly decline. At the country level, South Africa will remain the top future destination for FDI in the region. Zambia is expected to recover from its negative FDI trend, while Mozambique's situation will improve slightly relative to 2016.

5. African cities' economic competitiveness, specialization and diversification



Marketing and branding to attract investment have become a booming business

© Maocheng

5.1. Competition amongst cities for FDI

In the modern economy, cities are assumed to be in fierce competition for resources, markets and economic influence. Despite the rich theoretical discourse on these 'place wars,' little attention has been paid to measuring the intensity of competition between cities. Drawing on theoretical work by Gordon (1999) and using insights from evolutionary and organizational ecology, this section introduces an indicator for estimating the degree of competition of African cities based on patterns of interaction (networks) between these cities as well as defining who their primary competitors are. This analysis sheds light on the

importance of regional diversification as a means to strongly improve the attraction of FDI to African cities. It is hypothesized that the more FDI sector diversity a city attracts, the more overall FDI it will receive. In other words: a city that only attracts a few FDI sectors will in general only attract low volumes of FDI.

In recent decades, urban studies and planning literature acknowledged that cities compete in terms of product markets and inward investments, as well as the establishment of firms, population, tourists, hallmark events and government funding (Harvey, 1989; Lever and Turok, 1999). These inter-city place wars (cf. Haider, 1992) in various markets can take

place on local, regional, national, continental, or even global scales (Gordon, 1999). In a world in which the role of physical distance is declining (Cairncross, 2001; Friedman, 2007) cities have to work on their competitiveness or their ability to successfully compete with other cities in attracting firms and workers to maintain or strengthen their position within the global, regional or national urban hierarchy and increase their standard of living (Porter, 1990; Friedmann, 1995; Storper, 1997). Today, the competition between cities is at an all-time high and local authorities put ever more effort into making their cities attractive locations.

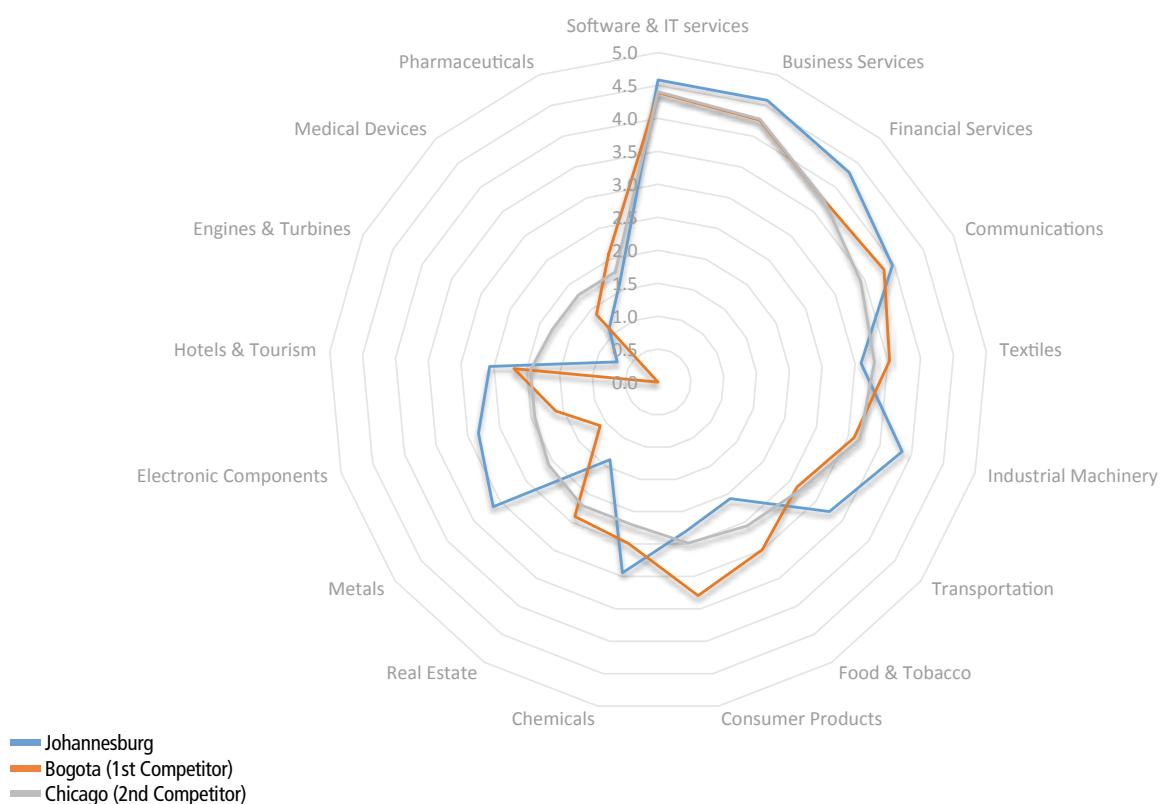
In this context, cost reduction for targeted populations (e.g. tax credits or project financing) is pivotal to attracting and retaining firms and workers but so is the provision of amenities, physical infrastructure and public transportation networks. Consequently, city marketing and city branding have become a booming business (Paddison, 1993; Van den Berg and Braun, 1999) while budgets for place

Although most studies on urban competitiveness assume that cities compete vis-à-vis one another, little attention is paid to actually measuring the intensity of competition between cities

promotion are ever increasing (Hall and Hubbard, 1996; LeRoy, 2005).

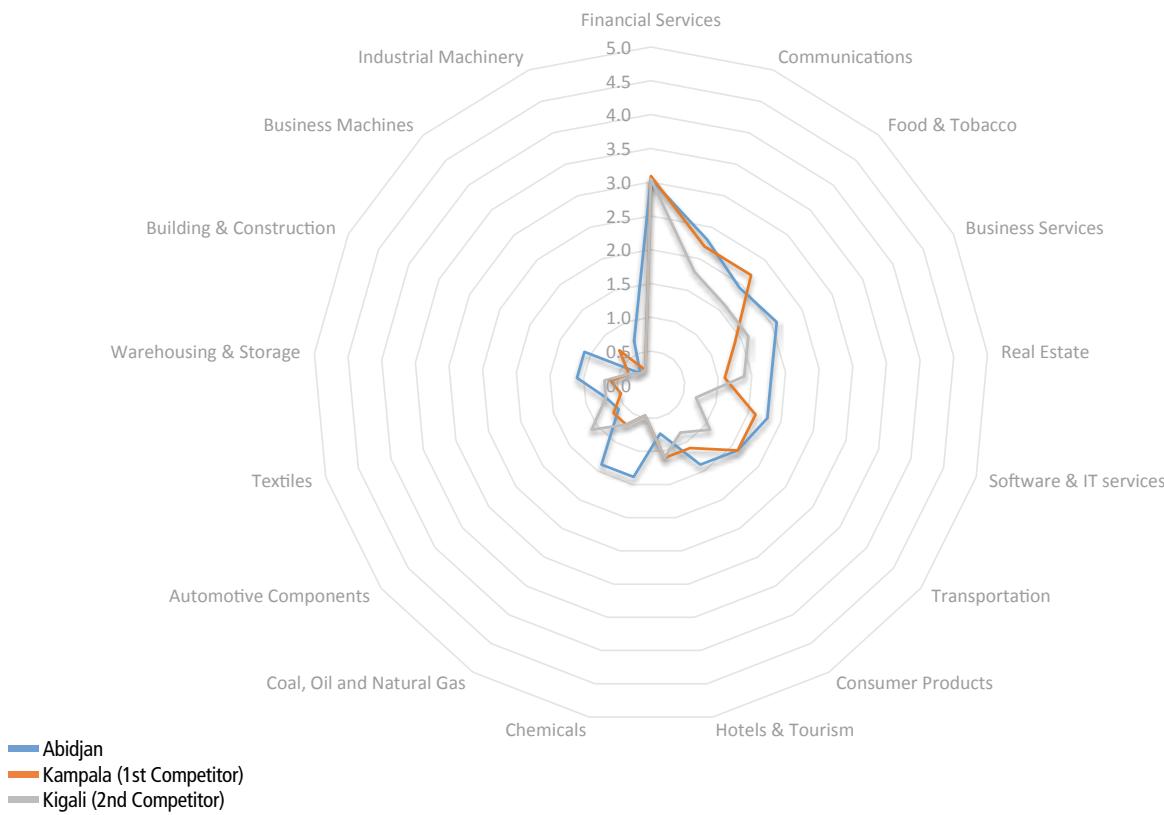
Despite a plethora of contemporary research and policy, empirical evidence on urban competition remains relatively weak. Although most studies on urban competitiveness assume that cities compete vis-à-vis one another, little attention is paid to actually measuring the intensity of competition between cities. However, to validate a concept of urban competitiveness, it is important to understand to what extent cities compete and where this

Figure 5.1. African competitor cities, based on similarity of FDI sectors (2003-2016)



The Economic Geography of African Foreign Direct Investment





competition comes from. Shifting our focus from urban competitiveness to urban competition will enrich our understanding of competitive cities (Burger et al., 2013) by providing a method of deducing the strongest competitors and relaxing the stringent theoretical assumption that all cities compete against each other (see, e.g. Haider, 1992; Markusen and Schrock, 2006). In this section the competitive strength of all global cities is calculated based on their sectors of investment.

5.2. The investment competitors of Abidjan, Cairo, Johannesburg and Kigali

The model used to calculate competition amongst cities is called the 'Manhattan Distance Model'. The technicalities will not be explained here as these go beyond the scope of this report, but for those interested, a link to a description of the technique is provided in Online Appendix 1.48.

In simple terms, the model is based on the concept that any two cities receiving the same

volume of investments in exactly the same industrial sector(s) will be perfect competitors because they are equally interesting to foreign investors. It implies that either city can be substituted by the other. By knowing the size and sectors of investment for every city in the world, the exact competitors for any city can be calculated and ranked. This becomes clearer when we look at the radar diagrams of the four case cities in this report, namely Abidjan, Cairo, Johannesburg and Kigali (Figure 5.1).

After the Manhattan Distance Model had been applied to the FDI data, the main global competitors for each of these cities were defined and ranked accordingly (see Table 5.1). For Johannesburg the main global competitors proved to be Bogota (1st), Chicago (2nd), Istanbul (3rd), Delhi (4th) and Buenos Aires (5th). It means that these cities specialize in the same FDI sectors as Johannesburg and also have the same distribution of FDI sectors as Johannesburg. In the case of Cairo, its true competitors are Al Manamah (1st), Vilnius (2nd), Lima (3rd), Kiev (4th), and Riyadh (5th). For Abidjan they turned out to

Table 5.1.
The top five competitors of six selected cities—at thirteen geographic scales (2003-2016)

World Region	Competitor	Shanghai	New York	Johannesburg	Cairo	Abidjan	Kigali
World	1st	Dubai	Sydney	Bogota	Al Manamah	Kampala	Kampala
	2nd	Hong Kong	Dublin	Chicago	Vilnius	Kigali	Vientiane
	3rd	Singapore	Paris	Istanbul	Lima	Dar es Salaam	Lusaka
	4th	Beijing	Tokyo	Delhi	Kiev	Vientiane	Dakar
	5th	Paris	Madrid	Buenos Aires	Riyadh	Lahore	Addis Ababa
Africa	1st	Johannesburg	Johannesburg	Cape Town	Nairobi	Kampala	Kampala
	2nd	Casablanca	Cape Town	Casablanca	Accra	Kigali	Lusaka
	3rd	Nairobi	Cairo	Nairobi	Casablanca	Dar es Salaam	Dakar
	4th	Cape Town	Nairobi	Cairo	Tunis	Dakar	Addis Ababa
	5th	Cairo	Casablanca	Lagos	Lagos	Addis Ababa	Abidjan
Asia and Pacific	1st	Hong Kong	Sydney	Delhi	Auckland	Vientiane	Vientiane
	2nd	Singapore	Tokyo	Manila	Baku	Lahore	Jinan
	3rd	Beijing	Hong Kong	Jakarta	Almaty	Dhaka	Dushanbe
	4th	Tokyo	Beijing	Seoul	Rangoon	Karachi	Ipoh
	5th	Sydney	Melbourne	Hanoi	Brisbane	Islamabad	Nanning
Latin America	1st	São Paulo	São Paulo	Bogota	Lima	Medellin	Caracas
	2nd	Mexico City	Mexico City	Buenos Aires	San Jose	Caracas	Recife
	3rd	Buenos Aires	Bogota	Santiago	Panama City	Montevideo	Medellin
	4th	Bogota	Buenos Aires	Rio de Janeiro	Guadalajara	Santo Domingo	Cali
	5th	Santiago	Santiago	Mexico City	Santiago	Cali	Cordoba
Middle East	1st	Dubai	Abu Dhabi	Riyadh	Al Manamah	Baghdad	Damascus
	2nd	Abu Dhabi	Ad Dawhah	Ad Dawhah	Riyadh	Arbil	Salalah
	3rd	Ad Dawhah	Riyadh	Abu Dhabi	Muscat	Damascus	Baghdad
	4th	Riyadh	Jeddah	Al Manamah	Amman	Tehran	Arbil
	5th	Jeddah	Al Manamah	Tel Aviv-Yafo	Jeddah	Salalah	Basra
North America	1st	Manhattan	Toronto	Chicago	Washington	Baltimore	McAllen
	2nd	Toronto	San Francisco	Montréal	Calgary	McAllen	Nashville
	3rd	Los Angeles	Los Angeles	Atlanta	Dallas	Halifax	Tampa
	4th	San Francisco	Vancouver	Houston	Atlanta	Tampa	Kansas City
	5th	Houston	Chicago	Los Angeles	Seattle	Nashville	Tempe
Rest of Europe	1st	Moscow	Moscow	Istanbul	Vilnius	Sarajevo	Limassol
	2nd	Bucharest	Warsaw	Warsaw	Kiev	Constanta	Samara
	3rd	Warsaw	Prague	Vilnius	Bratislava	Lefkosia	Valletta
	4th	Istanbul	Istanbul	Prague	Krakow	Ljubljana	Lefkosia
	5th	Budapest	Budapest	Kiev	Belgrade	Odesa	Banja Luka
West Europe	1st	Paris	Dublin	Zurich	Luxembourg	Malaga	Innsbruck
	2nd	Madrid	Paris	Helsinki	Glasgow	Alicante	Murcia
	3rd	Dublin	Madrid	Dusseldorf	Geneva	Bern	Padova
	4th	Barcelona	Berlin	Brussels	Lisbon	Derby	Alicante
	5th	Frankfurt	Amsterdam	Copenhagen	Rome	Dundalk	High Wycombe

Central Africa	1st	Douala	Douala	Douala	Kinshasa	Douala	Douala
	2nd	Kinshasa	Kinshasa	Kinshasa	Douala	Kinshasa	Kinshasa
	3rd	Yaounde	N'Djamena	Yaounde	Lubumbashi	N'Djamena	N'Djamena
	4th	Lubumbashi	Yaounde	Lubumbashi	N'Djamena	Yaounde	Lubumbashi
	5th	N'Djamena	Lubumbashi	N'Djamena	Yaounde	Lubumbashi	Yaounde
Eastern Africa	1st	Nairobi	Nairobi	Nairobi	Nairobi	Kampala	Kampala
	2nd	Dar es Salaam	Dar es Salaam	Dar es Salaam	Kampala	Kigali	Addis Ababa
	3rd	Kampala	Kampala	Kampala	Dar es Salaam	Dar es Salaam	Khartoum
	4th	Kigali	Addis Ababa	Addis Ababa	Addis Ababa	Addis Ababa	Dar es Salaam
	5th	Addis Ababa	Kigali	Kigali	Kigali	Khartoum	Juba
Northern Africa	1st	Casablanca	Cairo	Casablanca	Casablanca	Tripoli	Alexandria
	2nd	Cairo	Casablanca	Cairo	Tunis	Alexandria	Tripoli
	3rd	Tunis	Tunis	Tunis	Algiers	Algiers	Agadir
	4th	Algiers	Algiers	Algiers	Tripoli	New Cairo City	6th of October
	5th	Tangier	Tripoli	Tangier	Rabat	Rabat	Giza
Southern Africa	1st	Johannesburg	Johannesburg	Cape Town	Cape Town	Lusaka	Lusaka
	2nd	Cape Town	Cape Town	Luanda	Luanda	Maputo	Harare
	3rd	Luanda	Luanda	Durban	Maputo	Harare	Windhoek
	4th	Durban	Maputo	Maputo	Durban	Windhoek	Maputo
	5th	Maputo	Durban	Pretoria	Pretoria	Durban	Gaborone
Western Africa	1st	Lagos	Lagos	Lagos	Accra	Abidjan	Dakar
	2nd	Accra	Accra	Accra	Lagos	Dakar	Abidjan
	3rd	Abidjan	Abidjan	Abidjan	Abidjan	Kumasi	Kumasi
	4th	Dakar	Dakar	Dakar	Dakar	Tema	Abuja
	5th	Abuja	Abuja	Abuja	Kumasi	Sekondi-Takoradi	Tema

Source: Wall, 2017. Based on fDi Markets data

be Kampala (1st), Kigali (2nd), Dar es Salaam (3rd), Vientiane (4th) and Lahore (5th). Lastly, for Kigali it is Kampala (1st), Vientiane (2nd), Lusaka (3rd), Dakar (4th) and Addis Ababa (5th).

It is important to note that these initial results do not take the geographic proximity of cities into account but are based purely on similarity of FDI sectors and the number of investments (count). Figure 5.1 shows why these cities are competitors. If we look at the radar diagram of Johannesburg we see that its strength of investment is represented by the blue line. The city in the world that closest matches this is Bogota, shown by the red line. If these cities were perfect competitors (100%) then these lines would overlap exactly with one another. In general, the FDI market overlap ranges from 0% (zero competition) to 100% (perfect competition). The green line, which represents the FDI sectors of Chicago, matches Johannesburg's blue line less than that of Bogota and is therefore the 2nd (less perfect) competitor of Johannesburg after Bogota.

If we look at Cairo's competitors we see a similar relationship, as is the case with Abidjan and Kigali, albeit that the four case study cities compete for different sectors. This underlines the theoretical assumption that, indeed, not all cities in the world compete for the same FDI (Markusen and Schrock, 2006). It is also clear that Johannesburg competes at a much higher league of cities (e.g. Bogota and Chicago) than a city like Kigali, which receives less investment. Kigali's competitors are clearly smaller, regional cities like Addis Ababa, Dakar, Kampala and Lusaka.

Table 5.1 reveals that "alpha" global cities like Shanghai and New York compete in an even higher urban league than Johannesburg. In the case of Shanghai, the competitors include Dubai (1st), Hong Kong (2nd), Singapore (3rd), Beijing (4th) and Paris (5th). For New York, it is Sydney (1st), Dublin (2nd), Paris (3rd), Tokyo (4th) and Madrid (5th). Whereas Shanghai and New York are both top-end global attractors of FDI, they are not actually strong competitors of each other, since they have different



Bogotá is ranked as the main global competitor to Johannesburg in terms of attracting FDI under the methodology of the Manhattan Distance Model

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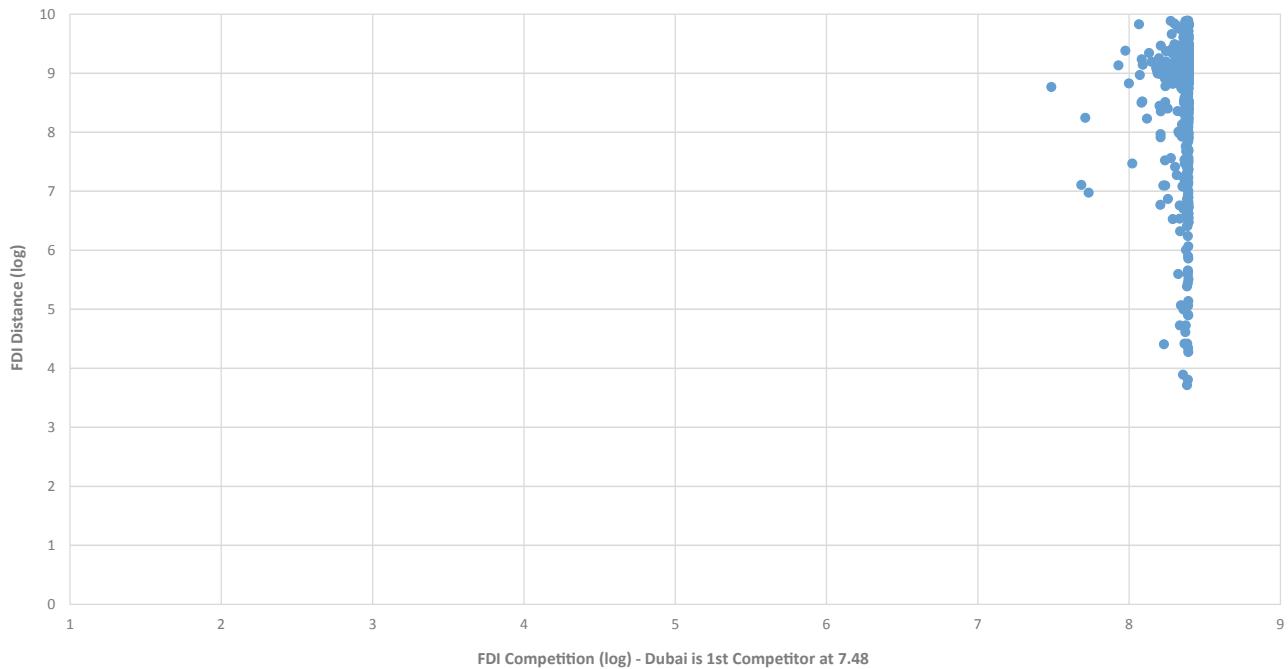
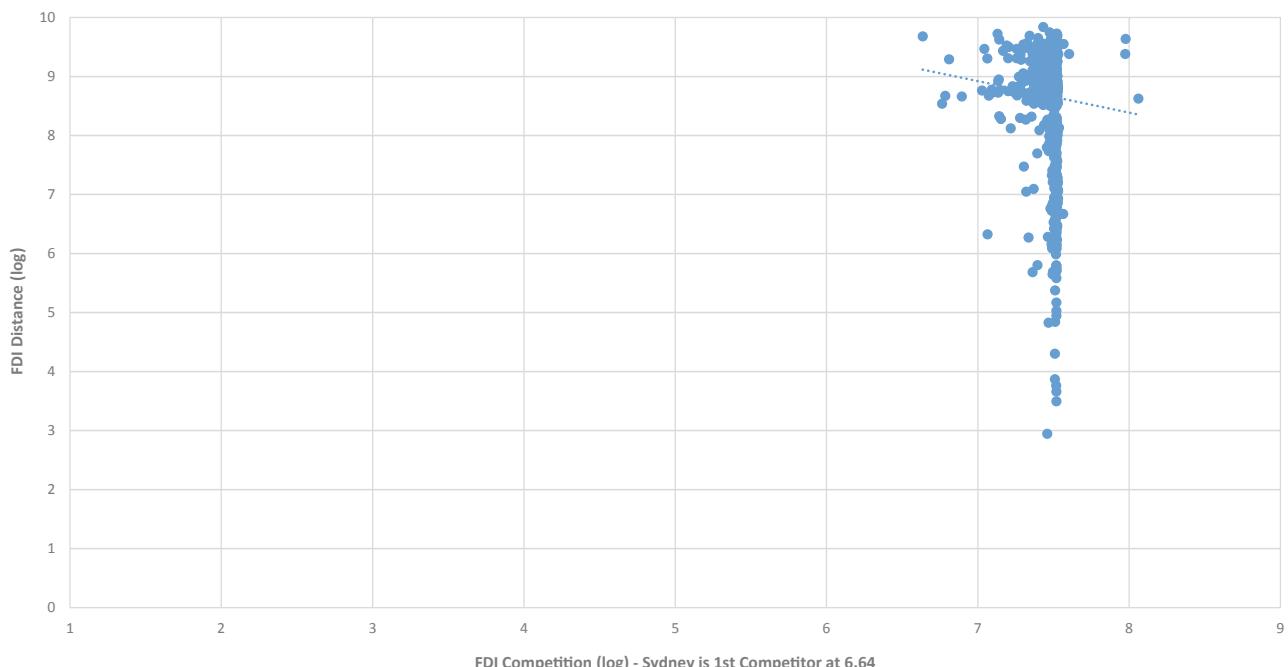
sectoral investment profiles. Table 5.1 also shows that if we add geographic specification, different sets of competitors for each city emerge. For instance, in the case of Johannesburg, its top African competitors prove to be Cape Town (1st), Casablanca (2nd), Nairobi (3rd), Cairo (4th) and Lagos (5th). Likewise, Johannesburg's top competitors can be identified for each major global region (Table 5.1).

Lastly, competitor cities within the different African regions are shown. For instance, Johannesburg's top competitors in Eastern Africa are Nairobi (1st), Dar es Salaam (2nd), Kampala (3rd), Addis Ababa (4th) and Kigali (5th). This is illustrated further in Figure 5.4. Since each case study city attracts FDI from entirely different sources, marketing and acquisition for future FDI would require

strengthening ties with entirely different FDI source cities. It again underlines that cities are not in equal competition with one another, and that there are different ecosystems of competition. For policymakers, this implies that it is critically important to know which cities attract the same type of FDI profiles, and are hence their true competitors.

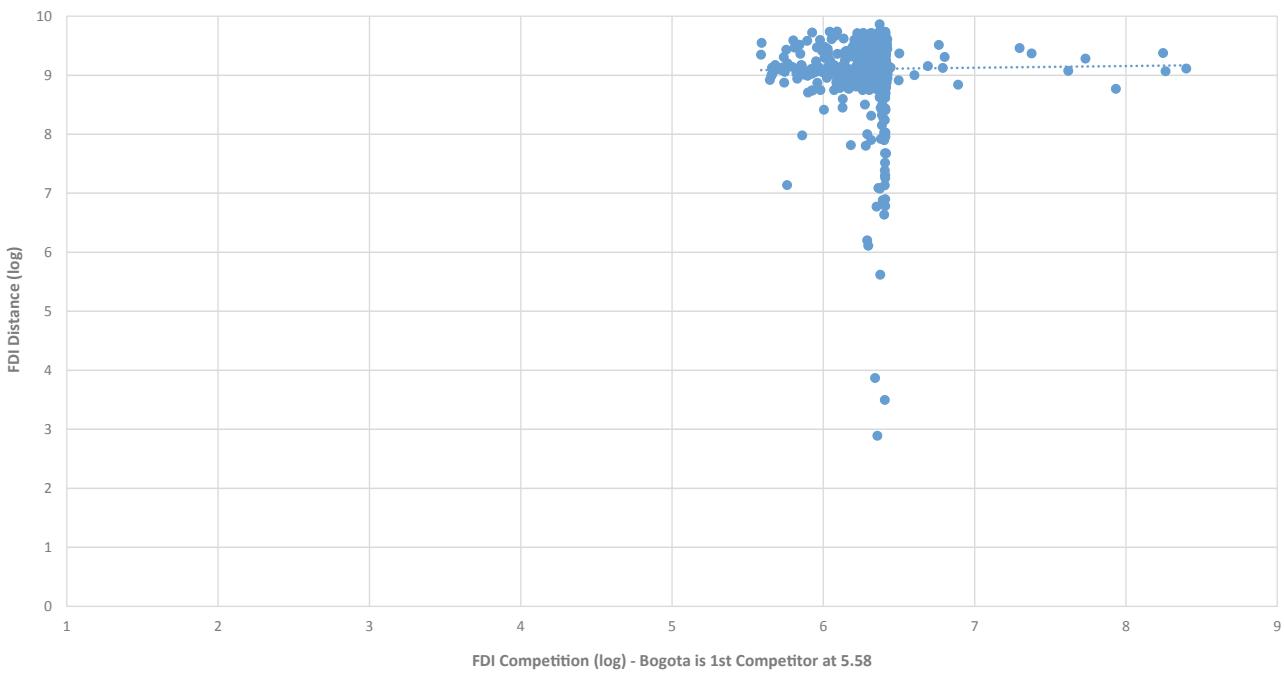
5.3. FDI sectoral diversification and specialization of cities

Figures 5.2 and 5.3 show the relationship between FDI Competition (on the x-axis) and FDI Distance (on the y-axis). FDI Distance has already been explained in section 3.5. FDI Competition is defined as the similarity of cities to each other in terms of FDI sectors.

Figure 5.2. City competition for FDI based on similarity of investment sectors (2003-2016)**Shanghai****New York**

Blue dots: world cities X-axis: FDI competition based on similarity of investment sectors Y-axis: the total distance of investments (km)
Source: Wall, 2017. Based on fDi Markets data

Johannesburg

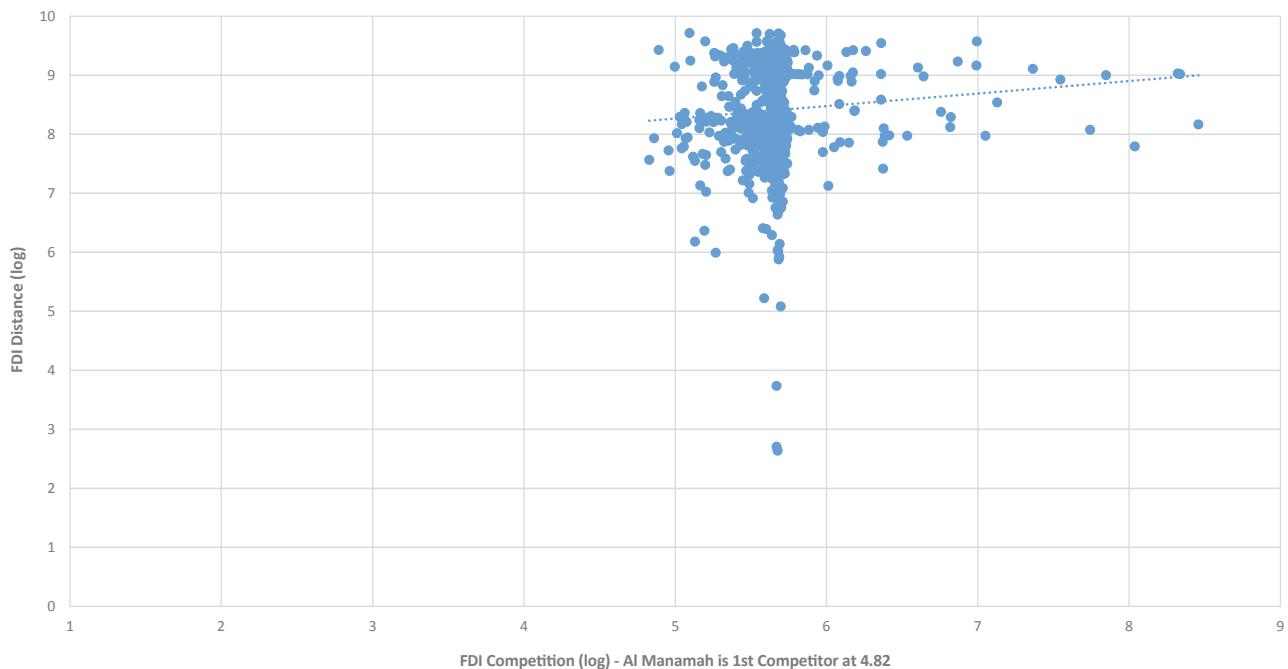
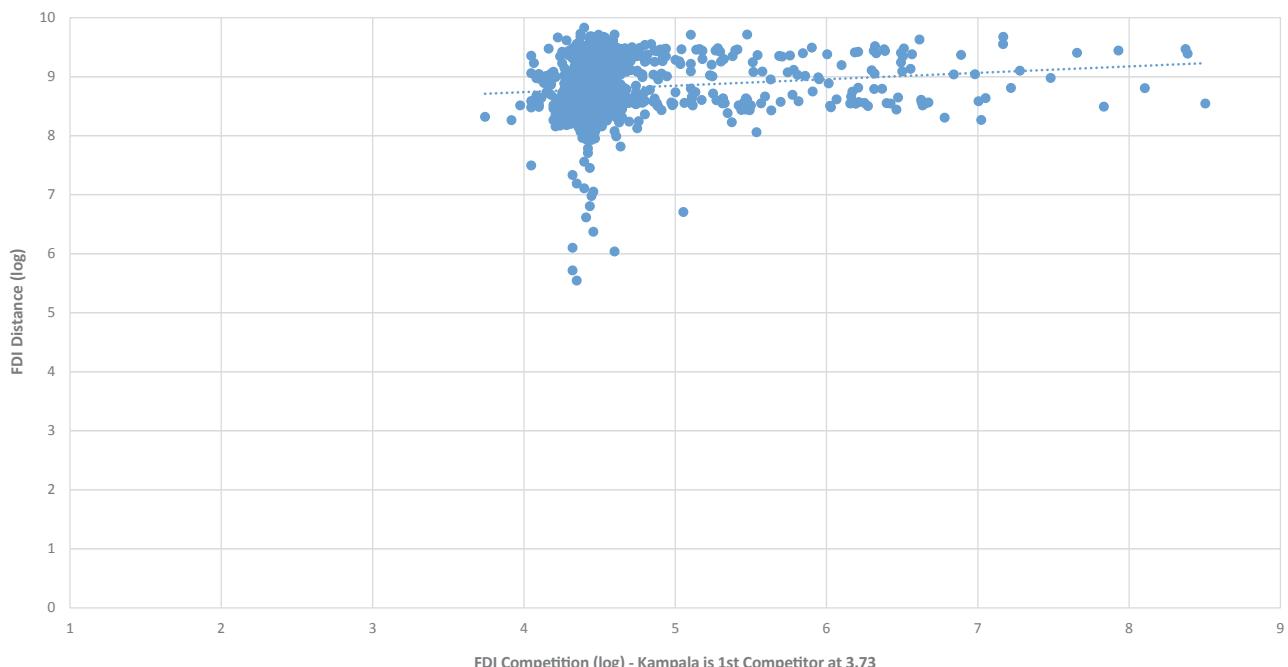


Blue dots: world cities X-axis: FDI competition based on similarity of investment sectors Y-axis: the total distance of investments (km)
Source: Wall, 2017. Based on fDi Markets data



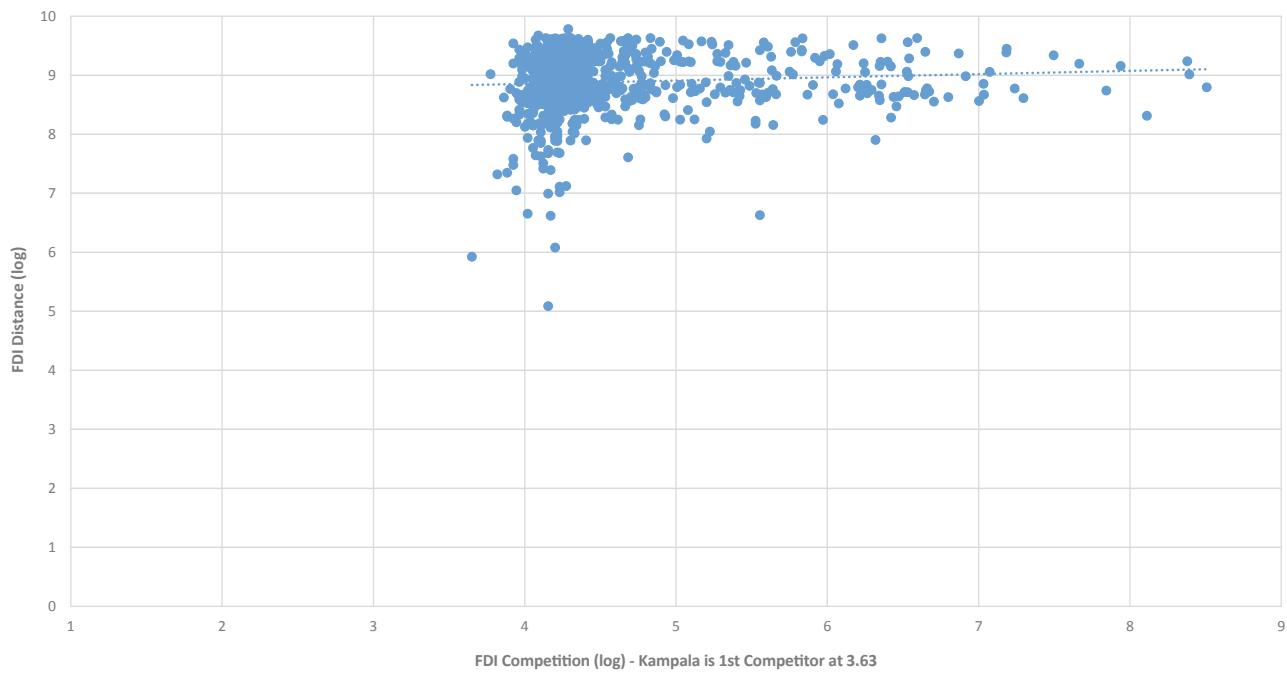
Smaller cities like Kigali have more competition for FDI because there are thousands of other cities with similar sectoral diversification and specialization profiles

© Dereje

Figure 5.3. City competition for FDI based on similarity of investment sectors (2003-2016)**Cairo****Abidjan**

Blue dots: world cities X-axis: FDI competition based on similarity of investment sectors Y-axis: the total distance of investments (km)
Source: Wall, 2017. Based on fDi Markets data

Kigali



Blue dots: world cities X-axis: FDI competition based on similarity of investment sectors Y-axis: the total distance of investments (km)
Source: Wall, 2017. Based on fDi Markets data

To prevent cities being outcompeted by a vast array of other cities, they need to diversify and/or specialize to face less competition and achieve higher economic prosperity and resilience

The closer cities (blue dots) are to the y-axis (left) the more they are under threat of competition. For example (see Figure 5.2), in the case of Shanghai (top graph) the cluster of global cities is found on the extreme right hand side of the graph and therefore very far from the y-axis. This shows that Shanghai is hardly threatened by other world cities because its FDI profile is so unique (highest sectoral diversity and specialization of FDI) that no other city can serve as a true substitute for it.

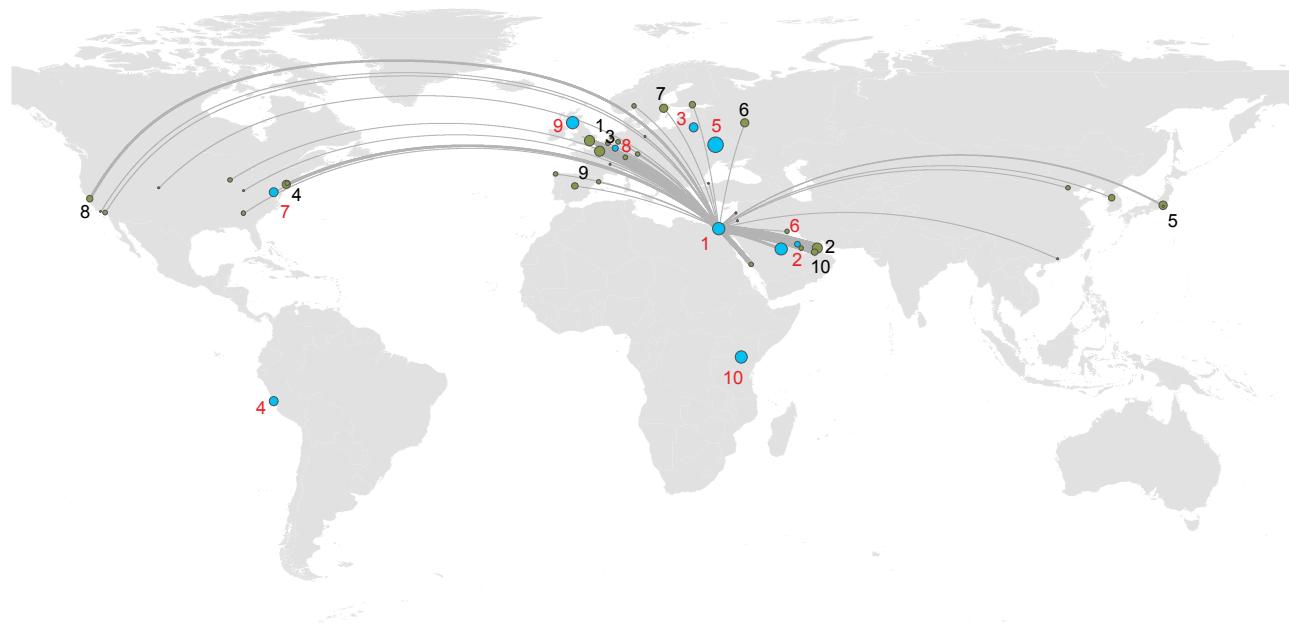
For New York (second graph, Figure 5.2) the cluster of blue cities lies closer to the y-axis because New York has several competitor cities that are equally interesting to investors. These cities have diversity and specialization profiles similar to those of New York

and can therefore act as substitutes of New York. For Johannesburg, (third graph, Figure 5.2) the cluster of cities is even closer to the y-axis and Johannesburg has many more competitors for FDI than Shanghai and New York because global investors have a far larger array of cities with similar characteristics to choose from. Cairo (first graph, Figure 5.3) has even more competitors than Johannesburg.

In the cases of Abidjan (second graph, Figure 5.3) and Kigali (third graph, Figure 5.3), most cities are even closer to the Y-axis. This means that they have comparatively the most competitors. This is because these smaller cities have thousands of other cities with similar sectoral diversification and specialization profiles and, consequently, global investors can choose out of a multitude of cities to access common markets as well as to get the required services and goods.

To prevent cities being outcompeted by a vast array of other cities, they need to diversify and/or specialize to face less competition and achieve higher economic prosperity and resilience. This finding confirms previous research (e.g. ESCAP, 2014) which showed that economic diversification is of critical importance to countries and cities to minimize economic vulnerability, increase GDP

Figure 5.4. The competitor cities of Cairo, Johannesburg, Abidjan and Kigali (2003-2016)



● **FDI Source City**

1. London	5. Tokyo	9. Madrid
2. Dubai	6. Moscow	10. Abu Dhabi
3. Paris	7. Stockholm	
4. New York	8. San Jose	

● **Top Competitors of Cairo**

1. Cairo	5. Kiev	9. Glasgow
2. Al Manamah	6. Riyadh	10. Nairobi
3. Vilnius	7. Washington	
4. Lima	8. Luxembourg	

● **FDI Source City**

1. London	5. Stockholm	9. Los Angeles
2. Paris	6. Madrid	10. Milan
3. Tokyo	7. Barcelona	
4. New York	8. Munich	

● **Top Competitors of Johannesburg**

1. Johannesburg	5. Delhi	9. Helsinki
2. Bogota	6. Buenos Aires	10. Dusseldorf
3. Chicago	7. Santiago	
4. Istanbul	8. Zurich	

The Economic Geography of African Foreign Direct Investment



● FDI Source City

- 1. Nairobi
- 2. Paris
- 3. London
- 4. Johannesburg
- 5. Tokyo

● Top Competitors of Abidjan

- 1. Abidjan
- 2. Kampala
- 3. Kigali
- 4. Dar es Salaam
- 5. Sarajevo
- 6. Constanta
- 7. Lahore
- 8. Vientiane
- 9. Dakar
- 10. Dhaka

● FDI Source City

- 1. Nairobi
- 2. Johannesburg
- 3. Dubai
- 4. Luxembourg
- 5. Abu Dhabi

● Top Competitors of Kigali

- 1. Kigali
- 2. Kampala
- 3. Vientiane
- 4. Lusaka
- 5. Dakar
- 6. Addis Ababa
- 7. Damascus
- 8. Limassol
- 9. Samara
- 10. Abidjan

Source: Wall, 2017. Based on fDi Markets data

and ensure competitive advantages within product niches. Indeed, by improving product differentiation and sophistication while tapping export potential, countries and cities can achieve more sustainable development and growth paths.

Acknowledging that different places pursue alternative and often competing routes to diversification, this analysis has underscored the importance of understanding the unique competitiveness of each city so that precisely tailored strategic planning activities for these cities can be conceived. In the case of Abidjan, Cairo, Johannesburg and Kigali we have seen that they have different competitors. These competitors can be explored in detail in future to find out what social, economic, environmental and policy location factors determine the FDI attraction. Of these competitor cities, if for instance Cairo wishes to become more diversified in a sector in which it is not yet well developed (e.g. biotech), then it would have to identify those world cities

Acknowledging that different places pursue alternative and often competing routes to diversification, this analysis has underscored the importance of understanding the unique competitiveness of each city so that precisely tailored strategic planning activities for these cities can be conceived

that perform best in that sector and subsequently determine the most important location factors that attract this type of FDI into those cities. From this knowledge, Cairo would then be able to develop the policy and planning tools and interventions to better compete for such sectors of FDI. This is further discussed in section 7.3.



While New York (above) and Shanghai are both top-end global attractors of FDI, they are not actually strong competitors of each other as they have different sectoral investment profiles © Luciano Mortula

6. Determinants and impact of FDI into countries and cities



Women's participation in more advanced labour sectors in Asia has contributed to attracting FDI

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6.1. Location factors that attract FDI into Africa and Asia

According to Gomez et al. (2017), whatever the investment origin, effective policy should regulate the activities of foreign firms to avoid detrimental impacts and to create incentives for strengthening beneficial developments (see also Appendix 2). Similarly, investment promotion campaigns and branding strategies should accurately target the types of investors that can be expected to support sustainable development at the investment-receiving end.

We conducted quantitative research on the factors contributing to the attraction of investments in African and Asian countries using various statistical

methods. The data was obtained from the *Financial Times* (fDi Markets and Analyse Africa), the World Bank and the Global Competitiveness Index of The World Economic Forum.

Table 6.1 shows the statistical results of the determinants of FDI into Africa. Model 1 (column 2) lists indicators which, together, explain to a large degree the attraction of investment into the continent. Firstly, we note that women's participation in the formal labour force bears no significance on FDI attraction in Africa, unlike Asia (see Table 6.2) where this indicator reveals a highly significant and positive effect on attracting FDI. It is important to note that this specifically reflects

women working in the formal (especially secondary and tertiary) economic sectors. Therefore, these results should not be confused with the general understanding that there is a high participation of African women in the agricultural and informal sectors. The results for Africa show that the participation of women in the high-end sectors is not sufficient to bear any significance to attracting FDI.

Furthermore, in the 1980s and early 1990s, labour force growth was substantially higher for women than for men for every region of the world except Africa. In the industrialized advanced economies, increasing female labour force participation has been linked to the completion of the fertility transition (Lim, 2002). The combined impact of rising female education and declining fertility rates is said to explain the participation of women in labour markets over the past 25 years in Asia, (ADB, 2016). This will be much like the case of Asia, where women's participation has increasingly occupied more advanced labour sectors, and therefore contributes to attracting FDI. Much has to be done in Africa to increase women's empowerment in these sectors e.g. promoting a supportive environment, increasing market access and competitiveness, improving skills and technologies, and securing rights (WIEGO, 2008).

The statistical results imply that there are too few women working in these sectors to have any significant impact on investors' considerations. This does not mean that women's participation in the overall workforce of Africa is low. In fact, sub-Saharan Africa has one of the highest rates (around 60%) of women's labour force participation in the world. However, as said earlier, women's participation is overrepresented in the informal and agricultural sector, which is characterized by poor wages and insecure working conditions (ILO, 2002). For these reasons, the contribution of African women to attracting investment FDI is not statistically significant. Nonetheless, the trend is positive (see Table 6.1) and once the participation of women in the African formal labour sector increases in future, this will expectedly become significant and have a positive effect on attracting investment.

Next, we see in Table 6.1 that domestic market size has a strong positive impact on attracting FDI into Africa. This is in line with a study by Gomez et al. (2017) which shows that market size, market efficiency, local technological capabilities and financial infrastructure are essential factors in attracting FDI into the Global

South (see also Appendix 2). This finding is further confirmed and elaborated in the Knowledge FDI chapter (Part B of the online report). In development studies, market size (measured by either GDP or GDP per capita) is commonly considered to be the most important FDI determinant (Artige and Nicolini, 2005).

In the 1980s and early 1990s, labour force growth was substantially higher for women than for men for every region of the world except Africa

Hence, FDI will locate in countries with large and expanding markets with greater purchasing power and where firms are likely to obtain a higher return on capital and investment profit. A large market allows for more efficient utilization of resources and economies of scale. The greater the host country's regional or urban total income and future development potential, the more FDI it will attract (Billington, 1999). Market size is also known to stimulate industrial specialization and is conducive to creating considerably larger incentives for creativity and producing new ideas. A single idea can also be more profitably sold in larger markets. Similarly, larger urban markets positively stimulate the accumulation of human capital and transmission of knowledge.

The next indicator of importance to FDI attraction in Table 6.1 is trustworthiness. Various studies have shown that societies with well-developed norms of trustworthiness and the rule of law experience better economic growth, have stronger civic stability, and more effective public institutions. In addition, institutional arrangement for national, urban and industrial policies should match the structure of the institutions to ensure effective coordination between policy goals, institutional objectives and capacities (UNECA, 2017b). Foreign investors are deterred by deficient governance and lack of enforcement of property rights, unaccountability of legal and financial services, and lack of commitment and enforcement by governments (at all levels) to stand as guarantor to foreign investors.

In a similar context, the corruption indicator is shown to have a significant and negative impact on FDI attraction. It is a common perception, based on

Table 6.1.
The determinants of FDI in Africa

Variables	Model 1 Total FDI	Model 2 Total FDI
Women's participation in formal labour force	0+	0+
Domestic market size	++	++
Trustworthiness	+++	+++
Corruption	-	-
Available domestic credit	+++	+++
Semi-presidential system	---	---
Parliamentary system (prime minister)	---	--

**Governance System reference point is the Full Presidential System
Source: Wall and Nyamai, 2017, based on fDi Markets and World Bank data

Table 6.2.
The determinants of FDI in Asia

Variables	Model 1 Total FDI
Women's participation in formal labour force	+++
Technological adaptation	+
Domestic market size	++
Visa freedom	++
Health	+
Land area	+++
Coastal area ratio	+++
Domestic credit	+++

Source: Wall and Nyamai, 2017, based on fDi Markets and World Bank data

+++ Very significant and positive relation
++ More significant and positive relation
+ Significant and positive relation
--- Very significant and negative relation

-- More significant and negative relation
- Significant and negative relation
0+ Not significant but positive relation
0- Not significant but negative relation

many studies, that numerous Sub-Saharan economies have serious corruption problems. Based on the Corruption Perceptions Index, a widely utilized measure of corruption risk in emerging markets, it has been shown that 90 percent of Sub-Saharan Africa is perceived to have entrenched corruption, albeit that the level of corruption varies from country to country. This impediment needs to be seriously tackled, difficult as that may be, as it reduces a country's efficiency and institutional environment quality which, in turn, impacts its competitiveness for foreign investment.

Table 6.1 further shows that availability of domestic credit is highly significant and positive to attracting FDI. Access to various forms of funding and finance are essential pre-requisites for investment. It is perhaps not surprising that among the developing regions, East Asia has the most advanced credit system with the highest investment-to-GDP ratios (UNCTAD Trade and Investment Report, 2016). Large-scale efforts are required to build effective banking and financial systems continent-wide, capable of providing adequate credit and liquidity for rapid productive expansion.

The chapter on knowledge FDI, in Part B of the online version of the report, also finds that financial market development has a significant impact on inward FDI, specifically in the knowledge-based sector. Proactive policy measures are paramount to overcome

Large-scale efforts are required to build effective banking and financial systems continent-wide, capable of providing adequate credit and liquidity for rapid productive expansion

early hurdles to viable and profitable private sector initiatives and to channel these into projects that play a major role in structural transformation. Alfaro et al. (2004) argue that the lack of development of local financial markets can also limit the economy's ability to take advantage of potential FDI spill-overs. Additionally, Azman-Saini et al. (2010) showed that the impact of FDI on growth, kicks in only after local financial development exceeds a certain threshold level. Until then, the benefits of FDI are non-existent.

Governments should therefore emphasize the diffusion aspect in formulating FDI policies that promote financial market development. African countries should also strengthen their tax systems and expand their tax base along with financial market development to increase investment flows (African Development Bank Group, 2017). A World Bank study also revealed that the current taxation system in Nigeria, for instance, contains a number of 'nuisance taxes' and double taxes on the mobility of people and goods across states. About 31 per cent of pre-tax profit is paid in tax by firms. In addition, high tariffs

and non-tariff levies and charges increase the cost of importing (The World Bank, 2011)

Table 6.1 shows the impact of presidential systems of government in Africa and their influence on attracting FDI. The higher the level of democratic sophistication, i.e. a full-presidential system (reference point), the higher the FDI attraction. Furthermore, countries that have a parliamentary system of governance or semi-presidential system, tend to attract less FDI (see table). In short, the more democratically progressive governments are, the more willing investors are to locate there.

Similar analysis was done on Asia (Table 6.2) and a different set of indicators proved to be important for this region, which can shed light on aspects which Africa can take into account in future. Due to space constraints

these will not be discussed in detail here but briefly mentioned as possible beacons for future development.

As discussed previously, women's participation in the formal labour force is vital to foreign investment in Asia. So is domestic credit availability, as previously discussed for Africa. Technological adaptation is also essential in Asia. Technology absorption concerns the acquisition, development, assimilation and exploitation of technological knowledge and products by local firms from external sources, e.g. multinationals. This means that education levels in countries and cities need to gear students to upcoming technologies so that they will be able to collaborate with or can be employed by international firms and be equipped to absorb the technologies they provide. If not, the local workforce

Table 6.3.
The motives of firms to invest globally, in Europe or in Africa

Global Motive of Firms	FDI Projects	% of Projects	Companies	% of Companies
Domestic market growth potential	14,926	40.7	9,482	43.6
Proximity to markets or customers	12,837	35.0	9,257	42.5
Skilled workforce availability	6,528	17.8	4,853	22.3
Regulations or business climate	5,240	14.3	4,158	19.1
Infrastructure and logistics	3,207	8.7	2,662	12.2
Industry cluster / critical mass	2,666	7.2	2,380	10.9
Lower costs	1,770	4.8	1,542	7.0
IPA or government support	1,713	4.6	1,502	6.9
Attractiveness / quality of life	1,521	4.1	1,357	6.2
Technology or innovation	1,225	3.3	1,081	4.9
Other motive	4,519	12.3	3,706	17.0
European Motive of Firms	FDI Projects	% of Projects	Companies	% of Companies
Proximity to markets or customers	2,692	40.0	2,316	44.7
Domestic market growth potential	1,957	29.0	1,586	30.6
Skilled workforce availability	1,306	19.4	1,107	21.3
Regulations or business climate	827	12.2	747	14.4
Infrastructure and logistics	777	11.5	693	13.3
Industry cluster / critical mass	690	10.2	658	12.7
IPA or government support	450	6.6	416	8.0
Technology or innovation	384	5.7	355	6.8
Attractiveness / quality of life	375	5.5	343	6.6
Universities or researchers	238	3.5	226	4.3
Other motive	918	13.6	836	16.1

Table 6.3. (Continued)
The motives of firms to invest globally, in Europe or in Africa

African Motive of Firms	FDI Projects	% of Projects	Companies	% of Companies
Domestic market growth potential	694	52.2	542	53.6
Proximity to markets or customers	413	31.1	342	33.8
Regulations or business climate	317	23.8	263	26.0
Skilled workforce availability	91	6.8	80	7.9
Infrastructure and logistics	70	5.2	66	6.5
Natural resources	64	4.8	53	5.2
Lower costs	58	4.3	56	5.5
Industry cluster / critical mass	43	3.2	43	4.2
IPA or government support	36	2.7	34	3.3
Attractiveness / quality of life	30	2.2	27	2.6
Other motive	104	7.8	97	9.5

African Market Served	FDI Projects	% of Projects	Companies	% of Companies
Domestic	2,049	53.7	1,274	52.2
Regional	1,702	44.6	1,332	54.6
Sub-regional	40	1.0	39	1.6
Global	29	0.7	29	1.1

European Market Served	FDI Projects	% of Projects	Companies	% of Companies
Regional	8,051	45.7	6,644	54.3
Domestic	6,633	37.6	4,562	37.3
Sub-regional	2,198	12.4	1,903	15.5
Global	891	5.0	783	6.4

Source: Wall 2017, based on fDi Markets data

will be subjected to lower grade occupations and not be able to benefit from innovations.

Domestic market size is key to attracting FDI in Asia and, for reasons previously explained, also for Africa. Following this, Table 6.2 further shows that Asia's visa freedom has contributed to positive investment developments. This finding might be of interest to African states, who more often than not impose harsh visa restrictions on travellers from some foreign countries and even other African countries. Such restrictions can deter foreign visitors and undermine regional integration efforts amongst African countries. Neumayer (2010) concludes that such restrictions reduce the flow of tourists, business people and other travellers, and damage the tourism industry as well as reducing trade and scientific, cultural and other exchanges with foreign countries.

6.2. Companies' motives to invest in different geographic regions

Unlike the previous section which was based on econometric analysis, Table 6.3 depicts survey results based on thousands of firms and illustrates their priorities to invest in particular locations. The most important reason for firms investing globally is domestic market growth potential (43.6% of the 9,482 firms surveyed). This means cities and urban regions, e.g. Gauteng, with high urbanization levels but especially those with growing middle classes and high (future) spending potential. Next, we see that proximity to markets or customers is essential. This means large cities and particularly those that are proximate to other cities in the greater urban or metropolitan region and which have high infrastructural connectivity (road, rail, airports, ports and IT) within and between cities.

As shown in Table 6.3, these two indicators are equally important for firms investing in Africa. For European investors, a second important aspect is proximity to markets or customers. Firms enjoy highly connected and accessible infrastructural networks, as in Europe, that give rapid and easy access to thousands of cities and towns. This means that African cities should better integrate with other proximate cities by means of infrastructural network integration. For global and West European investors, a skilled workforce is the third most important motive. This implies that African national and local policymakers need to bolster secondary and tertiary education programmes, facilitate the competitiveness of their universities, and promote stronger R&D to attract investors.

For investors in Africa (see third section of Table 6.3), when compared to the priorities of global investors (see first section of Table 6.3), we see that for both domestic market growth potential is the key factor. This shows that Africa is urbanizing fast and that there are high expectations of future growth in these markets.

Proximity to markets serves as the second most important motive for global and African investors. It shows that many multinationals in Africa have become less oriented towards export production and are now focusing on selling their products directly to local and regional markets

Proximity to markets serves as the second most important motive for global and African investors. It shows that many multinationals in Africa have become less oriented towards export production, and are now focusing on selling their products directly to local and regional markets. Similar to the first motive, it also reveals that African cities are rapidly transforming into large urban regions with a variety of proximate markets



African governments need to ensure that the quality of universities is vastly improved and that education curricula are matched with growing regional and global demand sectors

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Table 6.4.
Impact on GNI per capita in Africa of different FDI sectors and other indicators

Variables	GNI per capita				
Total FDI	+++				
Hitech FDI		++			
Manufacturing FDI			+++		
Resource FDI				0-	
Services FDI					+++
Urban Population	+++	+++	+++	+++	+++
East Africa Community (EAC)	---	---	--	---	---
Southern Africa Development Community (SADC)	---	-	---	---	---
Economic Community of West African States (ECOWAS)	---	---	---	---	---
Intergovernmental Authority on Development (IGAD)	--	--	-	---	--
Community of Central African States (CEN-SAD)	---	---	---	---	---

Source: Wall and Nyamai, 2017, based on fDi Markets and World Bank data

+++ Very significant and positive relation ++ More significant and positive relation + Significant and positive relation --- Very significant and negative relation
 -- More significant and negative relation - Significant and negative relation 0+ Not significant but positive relation 0- Not significant but negative relation

that are increasingly of interest to multinationals. The third most important motive for investors in Africa is the need for regulations and business climate (26% of 263 investors into Africa stated this), underlining that firms seek trustworthy and reliable countries and cities with supportive business and legal ecologies. For Africa, which suffers from high corruption and crime, this reason is very important to investors. This is a less important motive for Europe (14.4%), and globally (19.1%). It is therefore extremely important for national, provincial and municipal governments to forge a healthy business climate and provide investors with confidence for investing in these locations.

Unlike global motives, which place a skilled workforce as the third most important objective, investors in Africa place a skilled workforce as the fourth motive to invest in Africa, (supported by only 7.9% of the 80 firms surveyed). This shows that these firms are generally not interested in Africa for skills, simply because this is not yet adequately available. However, a skilled workforce is key to lifting African citizens out of poverty and therefore African governments should take heed of this and ensure that the education levels and quality of universities are vastly improved, that education curricula are matched with growing regional and global demand sectors, and that they provide the type of skilled workforce required to make African cities regionally and

globally competitive. Skilled local employees can be better absorbed into a multinational's workforce and stimulate local production and innovation.

Infrastructure and logistics forms the fifth motive for African investors (6.5%). In Europe (13.3%) and globally (12.2%) this is roughly twice as important to investors. Therefore, if African cities improve their infrastructure and logistics networks, FDI can be expected to increase. The sixth-ranking motive in terms of importance for Africa investors is natural resources (5.2%). African firms investing in Africa have become generally less interested in raw materials. This is likely due to the sharp fall of commodity prices in the 2003-2016 period, but also the strong rise of knowledge-intensive manufacturing, services and hi-tech industries. This indicates that African governments should now focus more on the non-resource sectors that tend to create more jobs, higher incomes, and can help reduce poverty and economic inequality. It also means that African governments should put more effort into making cities less consumer dependent and instead boost innovation and productivity of goods, services and information.

For global and European investors, the results show that natural resources is not even within their top ten list of reasons for investment. Next, we see that lower costs is the seventh reason for investing in Africa. It is therefore not a very important motive.

This is verified in the chapter on wage distribution across African cities and its effect on FDI attraction (see part B of the online version of the report), which shows that this is not a significant operational cost for multinationals. It means that most labour generated by multinationals is relatively minimal, poorly paid and, most importantly, that there is little wage variation across the continent. It suggests that minimum wages and wage differences should be stringently negotiated and formalized at continental, national and municipal levels of African governance, so as to avoid further conscious or subconscious exploitation.

The eighth most important motive for investors in Africa is critical mass of industry clusters. For global and European investors this is the sixth most important motive. It means that foreign investors seek proximity to a high density of local affiliates and suppliers in the same and related sectors. For Africa that is not a priority motive (only 4.2% of surveyed firms found this important), implying

Investment Promotion Agencies (IPAs) or government support are much more important to European and global investors, than African ones. If African policymakers improved their IPAs and the healthy business environments that this entails, then FDI into Africa would expectedly rise

that international firms operating in Africa do not depend much on local business, which is a problem. Therefore, policymakers need to put more effort into improving the quantity and quality of local firm clusters (e.g. specialized industrial parks) in sectors they already have potential in, as well as for new sectors that have high regional and global growth prospects. Once a critical mass of local firms in these sectors is established, this will positively influence the way foreign firms cooperate with African businesses.

Investment Promotion Agencies (IPAs) or government support are much more important to European and global investors, than African ones (ninth motive). If African policymakers improved their IPAs and the healthy business environments that this

entails, then FDI into Africa would expectedly rise. The tenth motive in Africa is the attractiveness of cities and quality of life (2.6%). Compared to Europe and globally, this is a far weaker incentive for African investors. Here too, we can expect that improvement in the attractiveness and quality of life in African cities, will strongly improve the quantity and especially the quality of FDI into Africa. Advanced manufacturing and services, as well as knowledge-intensive industries seek highly attractive cities to operate in. Cities like Kigali, Cape Town and Casablanca already prove this, as they particularly attract this kind of high-end investment.

6.3. The impact of FDI on Africa and Asia

In the next section, we explore the impact of FDI on economic development in Africa, i.e. on GNI per capita. GNI per capita is defined by the World Bank as the US dollar value of a country's final income in a year divided by its population number. It reflects the average income of a country's citizens. While GDP is the commonly used measure of economic growth, our research used GNI/capita to measure a country's economic output per person which better represents the distribution of capital across the nation's people. Furthermore, for our analysis, FDI has been disaggregated into sectors i.e. manufacturing, hi-tech, resources and services. We found that all FDI sectors showed a significant and positive effect on GNI per capita, except for the resources sector where impact proved to be insignificant. While trade in resources seems logical for a continent that has an abundance of raw materials, the benefits in terms of socio-economic development and sustainable economic growth appear suboptimal.

Following these findings, African governments should take fundamental decisions on investments that are most likely to foster economic growth, particularly in the hi-tech, manufacturing and services sectors. Services also account for a large portion of Africa's stock of inward FDI, although the share is lower than in other regions and concentrated in a relatively small number of countries. But it should be realized that FDI in services can be important in supporting the participation of African economies in global value chains. The services and manufacturing sectors have contributed significantly to the GNI per capita growth both in Africa and Asia given the number of jobs created by these two sectors.

The research results in Table 6.4 suggest that the hi-tech sector has contributed significantly to

economic growth in Africa. Research has shown that technological progress of most low-income countries is mainly a process of adoption and adaptation of technologies from abroad rather than the creation of new technologies. However, a 2014 World Bank and an Elsevier report revealed that yearly research output in Sub-Saharan Africa (SSA) regions increased from 0.44% to 0.72% within the period 2003-2012. Although this is a positive development, it accounts for less than one percent of the world's research output. The same reports indicate that Asian countries with comparable levels of research output as Africa, such as Malaysia and Vietnam, have grown much faster over the same period. This shows that much has to be done to get this sector globally competitive.

There are several reasons for this, for example, a recent report by Quartz Africa Brief indicated that Africa's lagging in research and innovation emanates from low-quality educational curricula and global funding skewed towards health and agricultural development rather than science, technology, mathematics and engineering projects.

Technological progress is critical to economic growth and welfare for any country, regardless of its level of development. Given the rapid technological change in the advanced economies of the world, closing Africa's technological capability gap by e.g. attracting more FDI is a necessary condition to put African nations on a path of sustainable development and poverty reduction. Policies on promoting scientific research and innovation in Africa should in particular aim at correcting the systemic weaknesses that hamper knowledge acquisition and dissemination in Africa (Aziz, 2012). A new African effort to espouse a culture of innovation would also help tackle problematic urbanization matters such as future urban food security, transportation/mobility and poverty reduction.

The analysis results (Table 6.4) further show regional differences within the continent. The Arab-Maghreb Union (AMU) was used as a reference point to identify the impact of total FDI and particular FDI sectors on the growth of African economies. The results reveal a significant negative impact on economic growth if AMU would hold the same characteristics as the other economic blocs in the continent. It is shown that, in the case of AMU, the impact of various sectors of FDI on GNI per capita is better than in the remainder of Africa. Similarly, the 2015 UN Investment Report showed that FDI growth in the services and manufacturing sectors was much higher in Northern Africa.



Knowledge-intensive industries seek highly attractive cities to operate in such as Cape Town



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7. Social, environmental and economic determinants of FDI clusters in Johannesburg



The Central Business District, Johannesburg

© Patrick Allen

7.1. The geography of FDI in Johannesburg

In this final section of Part A, the FDI clusters in the districts of Johannesburg have been mapped at the postcode level for various years, then aggregated to the seven urban regions of Johannesburg (regions A-G), as seen in the map of Figure 7.1. Next, this panel data was matched with

local social, environmental and economic data for these same municipal regions. This data was then used for statistical modelling, to test the effect of these urban factors upon FDI attraction into Johannesburg's districts.

Firstly, we see that FDI clusters (red nodes) are found particularly in the affluent regions of

Johannesburg's northern suburbs e.g. Sandton and Rosebank (dark blue regions). It is also seen that regions D and G, which include the poorer areas in the south (e.g. Soweto) receive no FDI. The uneven distribution of FDI seen at the global and regional scales, appears to be found at the city level too. The yellow dots in the map show the locations of local firms, which are evidently more homogenously scattered across the city than is the case of FDI companies which are clustered along the major highways in a South-North direction. Next, it is of interest to explore the determinants of these urban FDI regions. In other words, which social and economic location factors best explain investment clustering.

7.2. FDI attraction in Johannesburg's seven major districts

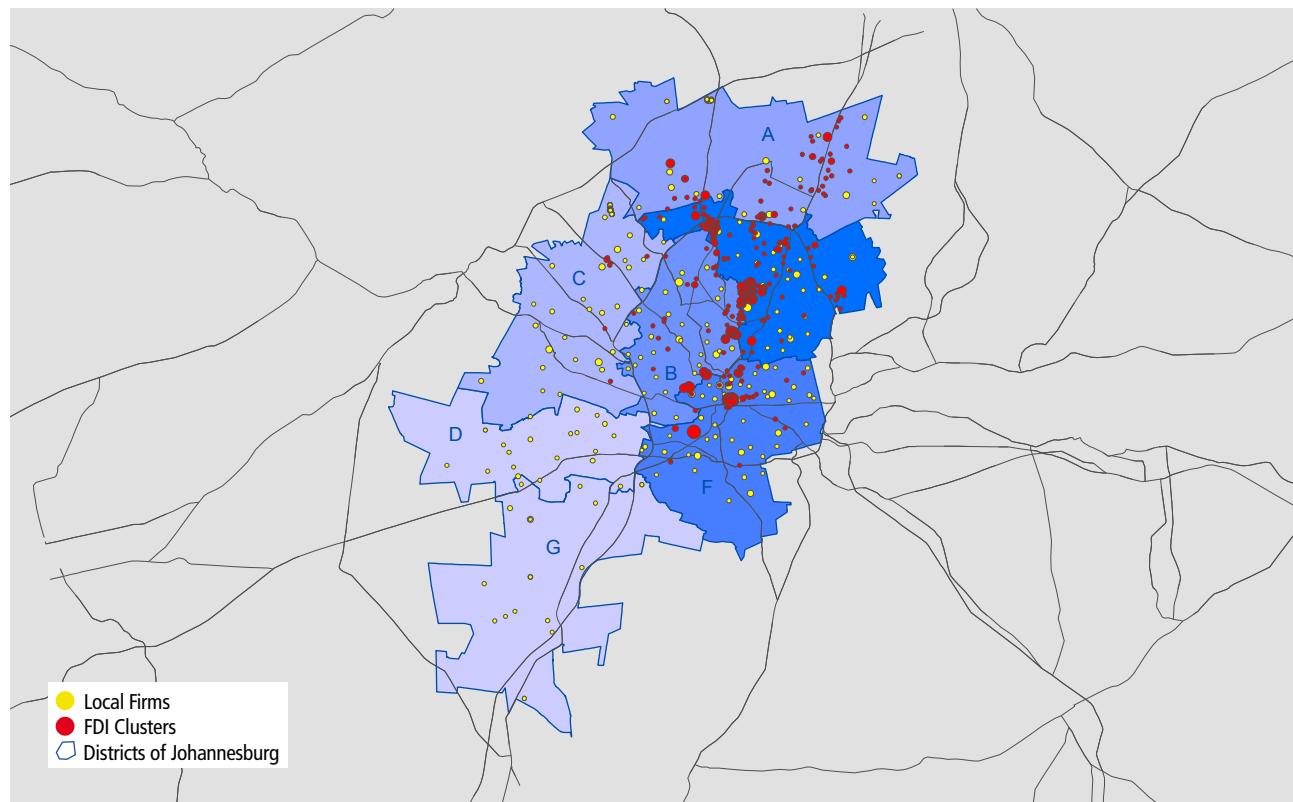
In this study it was found that FDI has been increasing since 2004 in the Midrand district area, the districts of Randburg and Rosebank, and the Sandton

In this study it was found that FDI has been increasing since 2004 in the Midrand district area, the districts of Randburg and Rosebank, and the Sandton district

district. Overall FDI into these regions has remained relatively stable. The Sandton district has been the largest receiver of FDI (see Table 7.1). In Table 7.1, several models have been tested on FDI. The models are represented by columns 2-6. Model 1 is column 2, and so forth.

The first model considers the effect of district population characteristics on FDI. The total number of residents in the district holding a postgraduate degree is used as a proxy for educational attainment. The number of residents holding a postgraduate degree has been increasing for all districts since 2004, with the Sandton and Alexandra district

Figure 7.1. The distribution of FDI and local firms in Johannesburg



Source: Wall, 2017, based on fDi Markets data and GIS shape-file maps (courtesy of the City of Johannesburg municipality)

Table 7.1.
The determinants of FDI clusters in Johannesburg's districts (2003 - 2016)

Variables	General Indicators for FDI	GVA Sector Indicators for FDI	Trade Indicators for FDI	Employment Indicators for FDI	Combined Indicators for FDI
Size of the urban region	0+	0-	0+		
Postgraduate education (log)	+				
Tourism (log)	+++				0+
Gross value added real-estate (log)		+++			
Gross value added electronics (log)		0-			
Export trade to Africa (log)			0+		+
Export trade to the Atlantic zone (log)			0+		
Export trade to Central America (log)			0+		
Total population (log)				0-	0+
Employment in agriculture (log)				---	0+
Employment in finance (log)				+++	
Employment in mining (log)				---	---

Source: Wall and Rutten 2017, based on fDi Markets data and IHS Global Insights data (courtesy South African head-office)

+++ Very significant and positive relation ++ More significant and positive relation + Significant and positive relation --- Very significant and negative relation
 -- More significant and negative relation - Significant and negative relation 0+ Not significant but positive relation 0- Not significant but negative relation

having the highest growth. GDP is included as a proxy for economic growth, and has been rising in all districts, although growth in Midrand and Diepsloot has been significantly lower than in other districts. The Human Development Index (HDI) is a summary measure of the achievement in different dimensions of human development, such as life expectancy and standard of living. Tourism in all districts has been steeply increasing since 2008. The Sandton district has the highest number of tourists visiting the area. The size of the district is included as a control for spatial magnitude.

The second model considers the relationship between economic sectors on FDI. The following sectors are considered: real estate, electronics, finance, hotels, trade and retail trade. Gross value added by region is used as a proxy for the economic activity of each sector. Production in all sectors has been growing since 2004, while the district of Sandton and Alexandra, the inner city and Southern Johannesburg reveal the highest production levels. The size of the district is included as a control.

The third model estimates the relationship between local trade flows and the level of FDI. The value of trade exports to different geographic regions is used. Exports to Africa, Europe, North America and Central America are included in the analysis. All districts have

increasingly exported to the African region. Imports, as a percentage of GDP, were also included.

The fourth model explores the relationship between local labour market composition and FDI. The employment sectors included are agriculture, finance and mining.

The final model combines all significant variables that were found in the previous models into one combined model. For this, the following variables are included: gross value added of the real estate sector, exports to the African regions, and employment in the agricultural and mining sectors. The district total population is included as a control.

The following variables are found to have a significant positive relationship with FDI across Johannesburg's regions (see Table 7.1): (1) the number of postgraduates; (2) the number of tourists; (3) the gross value added of the real estate sector; (4) exports to the African region; and (5) employment in the financial sector. This again show the importance of developing an advanced local skill base, making cities attractive destinations for business and leisure tourists, high-quality built environments, Johannesburg's role in African regional trade, and the availability of sufficient capital. Employment in the mining and agricultural sectors is also seen to have a significant but negative relationship with FDI

in the city. This implies that FDI into Johannesburg is more geared towards secondary and tertiary sectors, a trend seen across the entire continent.

In the final model, exports to the African region again show a very significant positive relationship with Johannesburg's FDI, while employment in the mining sector recorded a negative relationship with the FDI over the study period. In this final model, the other variables no longer appear to have a significant relationship with FDI. The final model accounts for 55% of the variation across regions and time. These results suggest that FDI tends to occur in city districts with higher skilled local labour markets, a greater number of firms engaged in international trade, a productive real estate sector, high levels of employment in the financial sector, and a greater number of tourists. In addition to this, Kollamparambil and Jogee (2018), in their case study of Johannesburg in Part C of the report, identified several locational factors and government policies which make Johannesburg a major FDI destination in Africa.

7.3. Potential future FDI sectors for Johannesburg

Sustainable and inclusive urban development increasingly hinges on governments and municipalities making the right choices. This also applies to attracting the right kind of FDI. In the case of Johannesburg, the choice criteria can be based on benchmarks such as previous capital expenditure attracted to the city in different industrial sectors, the number of jobs generated by FDI in these sectors or a combination of both—as seen in the scatterplot of Figure 7.2.

In this case, communications brought the most capital to the city over the period 2003-2016 and created a reasonable amount of jobs. On the other hand, the metals sector has enabled the highest volume of direct employment, while attracting the third-highest capital expenditure. The software and IT services sector scored a good middle ground position and would also be a fair option for policymakers to choose. To a lesser degree, financial services, business services, hotels and tourism and transportation are also interesting candidates of future FDI attraction to Johannesburg.

Besides choosing sectors in which the city already has a good track record, policymakers might also wish to develop sectors the city is not strong in yet. Choices can also be based on other arguments e.g.

the case of renewable energy where FDI that has one of the highest growth rates in Africa and the world, and is equally essential to addressing the UN's sustainable cities and climate change SDGs. At the same time, compared to other world regions, Africa produces only a small amount of renewable energy. This is further explored in Part B of the online version of this report, which reveals policies that can better attract renewable energy FDI and presents recommendations which African countries could learn from.

The case of food FDI could be similarly posited. It can be argued that food security is the UN's second most important millennium goal, especially in Africa—the world's most food insecure continent. Because Johannesburg attracts approximately 10,000 new and additional migrants each month, generally from rural areas, it is arguable that the food sector could be ideal to create jobs for a large section of

Sustainable and inclusive urban development increasingly hinges on governments and municipalities making the right choices. This also applies to attracting the right kind of FDI to cities

these migrants who often already have agricultural skills. Clearly, these people would likely need to be trained in medium-tech and hi-tech production methods or regional and peri-urban food production and entrepreneurship. In this way, large numbers of unemployed in Johannesburg (and other African cities) can be put to work, feeding the cities and contributing to food security.

The above example stresses that FDI attraction should be based on clear policies, good governance and vision of what is good for a particular city, especially in terms of inclusive social, economic and environmental development. Once a city has chosen its FDI sectors of interest, the next step would be to investigate what policies and location factors would be necessary to start attracting the new FDI. This requires knowing which cities worldwide are strong in attracting investment in that particular sector but, more importantly, exploring which policies and



Soweto, a township in Johannesburg, does not receive any of the city's foreign direct investment (see figure 7.1)

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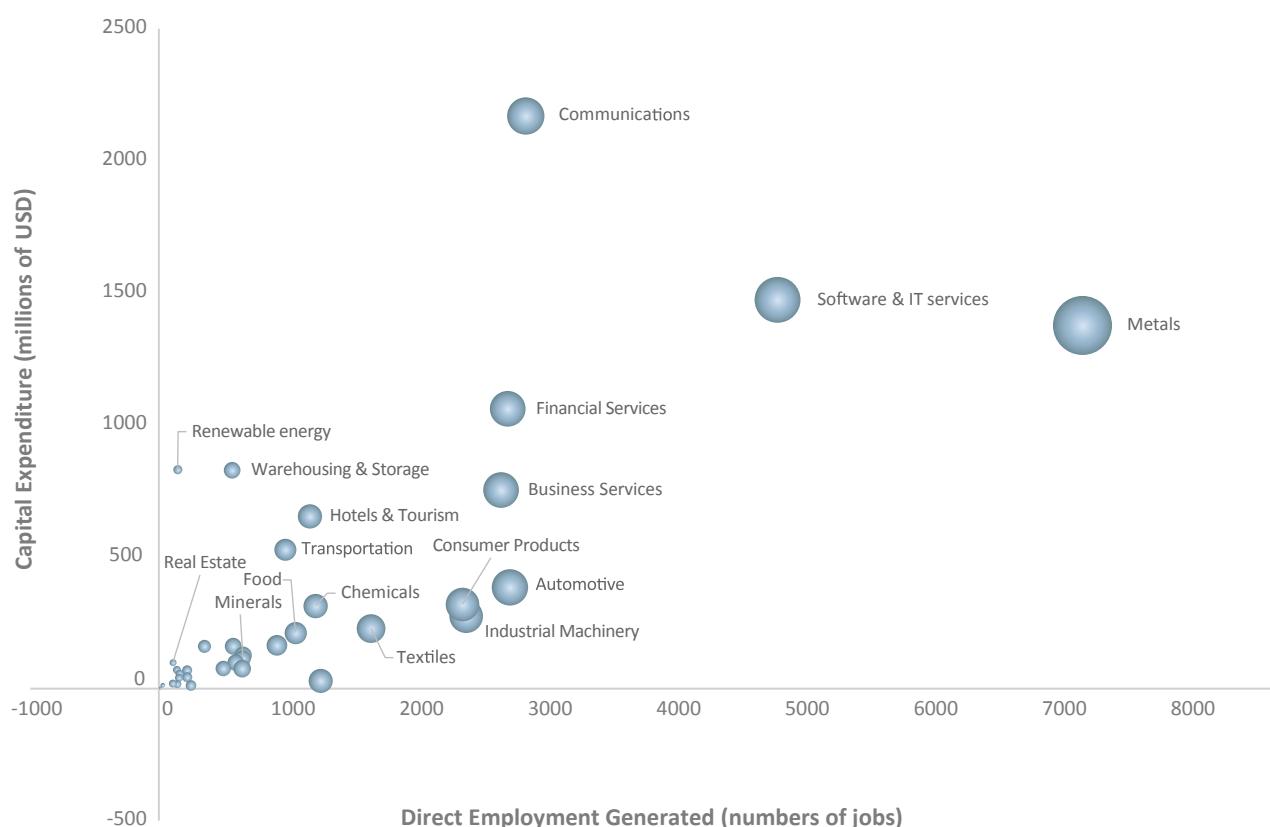
factors have made these cities strongly competitive in these particular sectors, and which cities have invested in them in the past. This requires a type of urban planning that matches a city's local qualities with the changing demand in local, regional and global networks of investment.

Considering two FDI sectors where Johannesburg is already strong, i.e. communications and software and IT (see Figure 7.2) and two possible future candidates—renewable energy and food—analysis was carried out in the fDi Markets database to determine the top cities in each of these sectors. In the case of communications FDI, the top global cities are, in descending order: Bangalore, Madras, Shanghai, Beijing, Singapore, São Paulo, London and Hong Kong. These cities can be quantitatively and qualitatively explored in great detail to identify which characteristics, locational factors and policies determine their success. Likewise, for the software and IT sector. The global competitors here are

Once a city has chosen its FDI sectors of interest, the next step would be to investigate what policies and location factors would be necessary to start attracting the new FDI

Bangalore, Hyderabad, Shanghai, Singapore, Pune and Madras. For renewable energy the cities are Bangalore, Singapore, Santiago and Dar es Salaam. In the case of food FDI, Shanghai, Bucharest, Moscow, Leeds, Krakow and St. Petersburg proved to be strongest. Studying these cities in detail would provide Johannesburg with critical insight into how to develop the city and its amenities and identify other locational factors to make it globally more competitive in these selected sectors.

Figure 7.2. FDI into Johannesburg, by capital expenditure and direct employment generated (2003-2016)



Source: Wall 2017, based on fDi Markets data

7.4. Source FDI from Johannesburg and other African cities

It has been shown in many studies that almost all cities in the world have the ability to attract investment but that only a limited number of cities have the power to be investors in other cities (Wall, 2009; Wall and v.d. Knaap, 2013). Cities that are able to do so are without exception the well-developed ones that control to a strong degree production and markets in other cities. It is therefore arguable that stimulating a city's outward investment by local firms will also contribute to it reaching a higher urban development status. Furthermore, it has been shown that outward FDI by local firms to other cities does not come at the expense and economic wellbeing of these source cities. Rather, a win-win dynamic has been observed that benefits companies and workers of both source and host cities (Moran, 2006).

It has been shown in many studies that almost all cities in the world have the ability to attract investment but that only a limited number of cities have the power to be investors in other cities

In an analysis of outward FDI of African cities, it became evident that only a handful of such cities have the ability to invest in other African or overseas cities (see Online Appendix 1.51). In fact, only 12 out of hundreds of African cities are doing this. Johannesburg holds the first position in outward FDI and has maintained a positive exponential growth rate of 4% over the period 2010-2016. This makes Johannesburg a true global city, and it is therefore arguably the most developed. Johannesburg is followed by Casablanca which, although showing a much lower volume of investment, has a very high growth rate, reflecting its eminent rise in African investment. In descending order, these two cities are followed by Cairo, Lagos, Nairobi, Cape Town, Port Louis, Lomé, Dar es Salaam, Tunis and Durban. It is noteworthy that most of these cities reveal a negative growth rate of outward FDI over this period, reflecting the overall global trend of FDI shrinkage that originated since the onset of the global recession. Other African cities do not currently hold a significant outward investment status or potential.





Singapore ranks as one of the leading global cities for FDI into communications, IT and software, and renewable energy

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Part A | Chapter 2

China's Foreign Direct Investment into Africa

By Canfei He and Shengjun Zhu







ICBC's USD5.4 billion acquisition of a 20% stake in Standard Bank of South Africa caused a huge spike in Chinese FDI into Africa in 2008

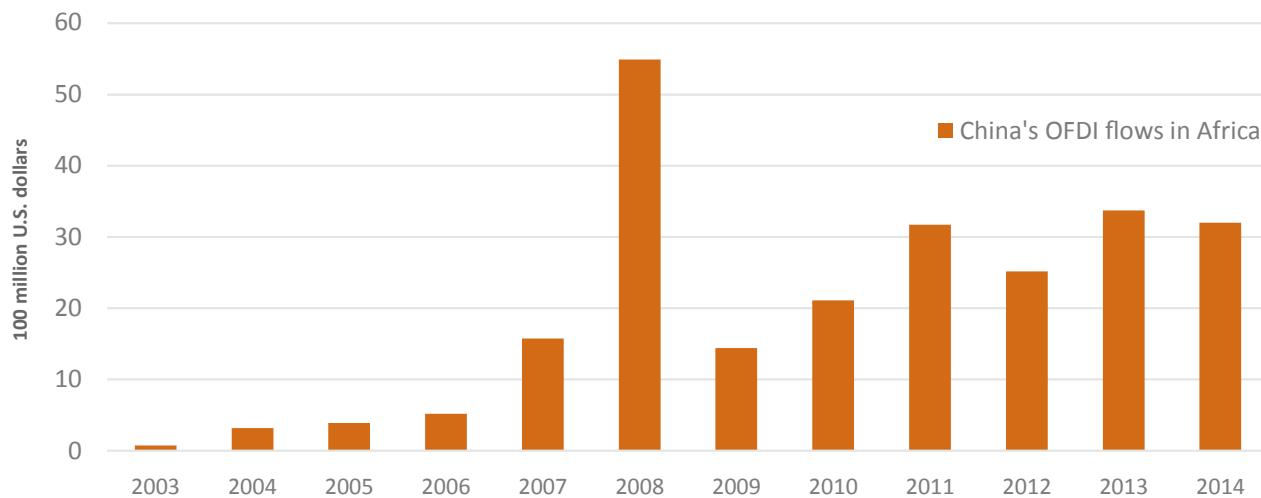
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Introduction

Using recent Chinese data, this section focuses on Chinese FDI into Africa. It first shows the historic development and distribution of China's FDI into Africa and next how this has become more diverse in terms of enterprise ownership; source and recipient regions; and industrial sectors. In this section, it is argued that, due to the complexity and diversity of Chinese FDI in Africa, it would be misleading to revert to simplistic broad statements on whether Chinese investments have positive or negative impacts on the development of the African continent. Host countries' attributes and their political and economic

affiliations with China co-determine the spatial distribution of Chinese FDI.

Since the late 1970s, when China opened its door to global investment capital, it became a popular destination for inward FDI. Driven by its "Bring in FDI" policy and export-oriented industrialization, China achieved rapid economic growth. More recently, China took up a policy of encouraging Chinese capital to "go global" as a component and target of its Tenth Five-Year Plan (2001-2005). This policy was reasserted in China's Eleventh Five-Year Plan in 2005. Subsequently, China's outward FDI flows grew from USD2.7 billion in 2002 to USD123.1 billion in 2014. Its outward FDI stock

Figure 1. China's FDI flows into Africa (2003-2014)

Source: He and Zhu, 2017, based on Peking University data

increased from USD22.9 billion in 2003 to USD882.6 billion in 2014 and China's share in total global FDI increased from 0.3% to 3.4%. Chinese capital has, indeed, significantly expanded its global FDI footprint and now reaches out to 186 countries/regions.

Over the 2003-2014 period, China's FDI stock into Africa increased from USD491 million to USD32.4 billion. China's ballooning influence in Africa has caused widespread debate about its impacts on institutional change and economic development in African countries. Some argue that these FDI flows into Africa have largely been shaped by China's own political and diplomatic considerations, given the dominance of state-owned enterprises (SOEs) in these outward FDI flows (Buckley et al., 2008). Others claim that the motives behind China's FDI into Africa can be explained by conventional FDI theory, including market-seeking, resource-seeking and calculated risk aversion (He et al., 2015).

Since China often takes a non-interventionist political approach and offers investments without attaching further conditions, some argue that China's FDI into Africa has a negligible impact on political governance and/or sustainable economic growth (Brooks, 2007). Others emphasize that Chinese capital offers an alternative source of financing to develop African nations' economies (Cheung et al., 2012). Chinese government aid, investments and infrastructure loans have played a positive role in improving infrastructure, increasing

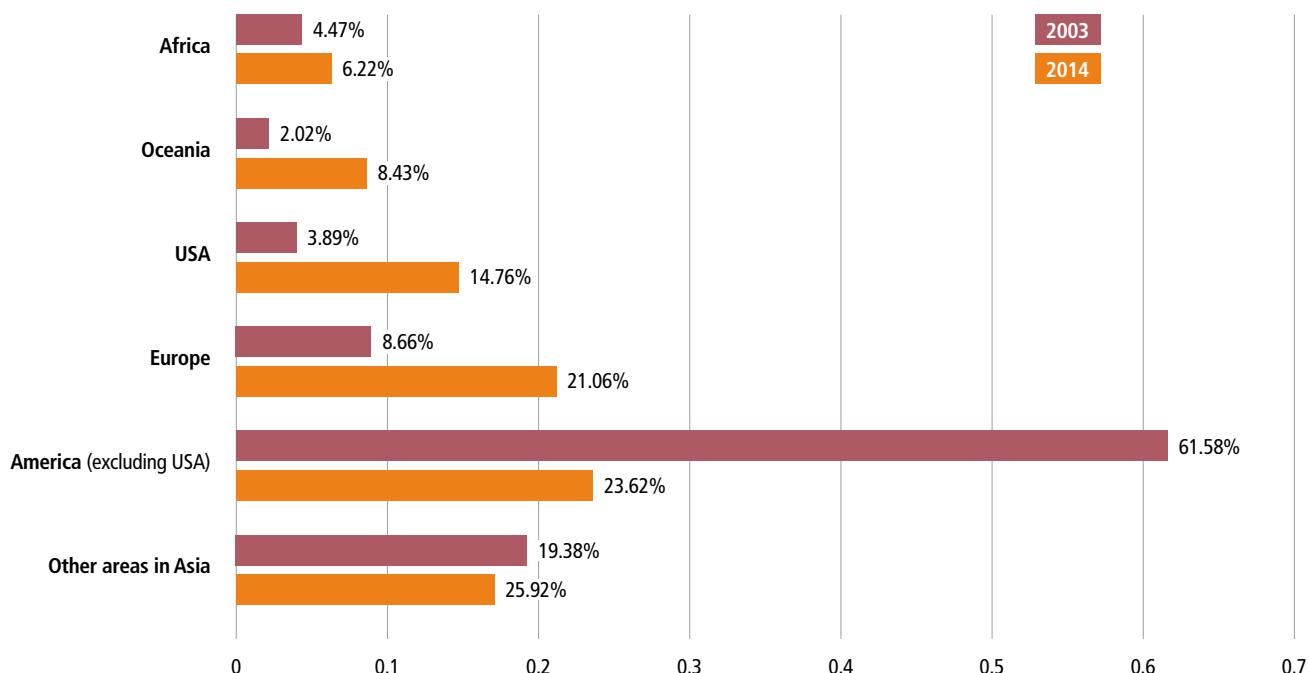
Since China often takes a non-interventionist political approach and offers investments without attaching further conditions, some argue that China's FDI into Africa has a negligible impact on political governance and/or sustainable economic growth

productivity, boosting economic growth and raising living standards in many African nations. The reason for the many unsettled debates with respect to China's role in Africa or the motives behind Chinese capital provision is that most studies tend to presume a homogenous China and a homogenous Africa (Kaplinsky and Morris, 2009). Matters are not as simple as that, since Chinese firms in Africa are different from one another in terms of ownership type, investment motives and investment plans. This section seeks to direct attention towards the complexity and diversity of Chinese FDI into Africa.

Development of China's FDI flows into Africa

The Chinese Ministry of Commerce (MOFCOM) publishes country-level data on outward FDI flows and stocks in its annual report: *The Statistical Bulletin of China's Outward Foreign Direct Investment*. Firm-level data has been

Figure 2. China's FDI flows into different global regions, 2003 and 2014



Source: He and Zhu, 2017, based on Peking University data

derived from a dataset that comprises outward FDI data published by MOFCOM approved by the authority. Further data on Chinese firms that have invested in Africa was collected from the webpage of MOFCOM.

China's FDI flow into Africa proved surprisingly small up to 2006 but increased rapidly thereafter (see Figure 1). From USD748 million in 2003 it expanded to USD5.4 billion in 2008, due partly to the Industrial and Commercial Bank of China's USD5.4 billion acquisition of a 20% stake in Standard Bank in South Africa in 2008. After this one-off transaction and as an outcome of the global financial crisis, FDI fell to USD1.44 billion in 2009.

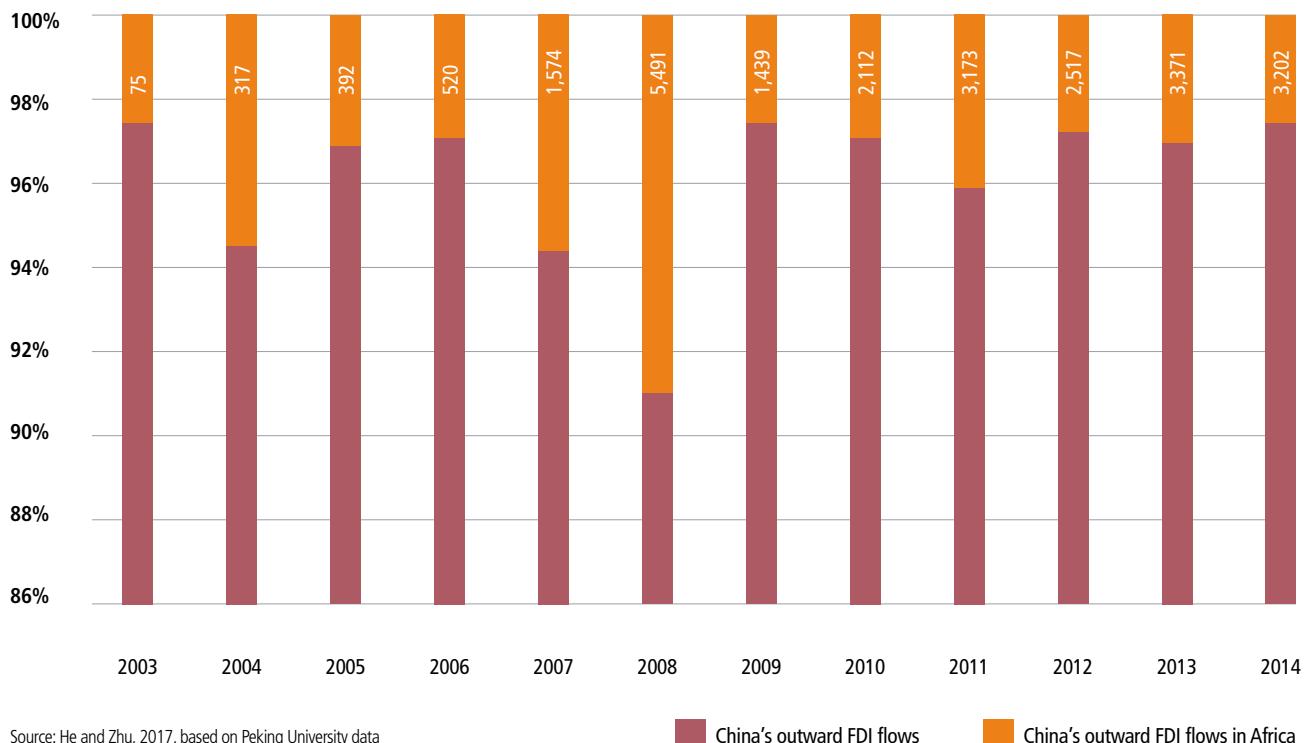
In 2009, China became Africa's largest trade partner, which assisted a recovery of China's FDI into Africa and a rebound to USD2.1 billion in 2010 that steadily grew to USD3.2 billion in 2014. In short, China's FDI into Africa started late, grew fast and stabilized in the 2010s.

However, even after two decades of rapid expansion the 6.2% share of China's FDI flow into Africa in 2014 remains small compared to the total global FDI inflow or those of the USA and Europe (Figure 2). The lion's share of China's outward FDI

In 2009, China became Africa's largest trade partner, which assisted a recovery of China's FDI into Africa and a rebound to USD2.1 billion in 2010 that steadily grew to USD3.2 billion in 2014

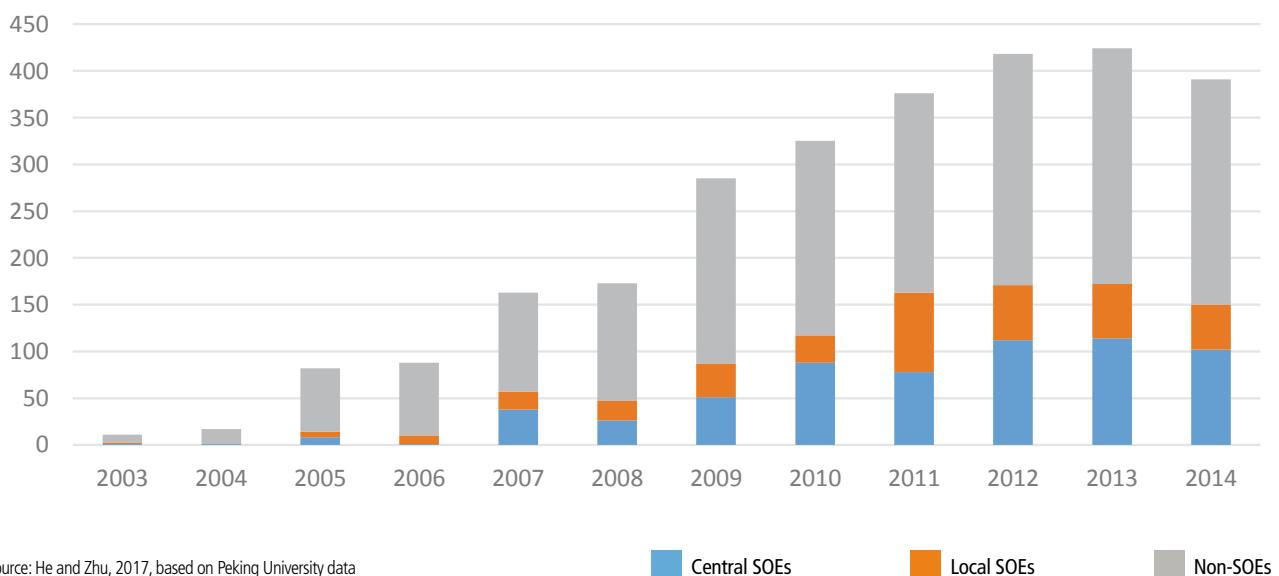
flows went into the Americas, Europe and Asia, which accounted for 70% of the total. During 2003-2014, the share of China's FDI flow into Africa remained around 4 to 6%, although it increased dramatically in 2008 (see Figure 3) due to the above mentioned acquisition of a 20% stake in Standard Bank in South Africa by the Industrial and Commercial Bank of China.

As the overall size of China's outward FDI increased, investments in Africa also became more diverse. During 2003-2014, the number of Chinese investors in Africa increased from 11 to 391. In total, there were 620 central government SOEs, 371 local government SOEs, and 1,762 non-SOEs (see Figure 4). Some studies tend to overestimate Chinese SOE

Figure 3. Share of China's FDI flow into Africa (USD millions and %, 2003-2014)

Coastal cities like Shandong are the largest source of Chinese FDI into Africa after state-owned enterprises

©Xuefei Yuan

Figure 4. Types of Chinese investing enterprises in Africa (2003-2014)

Source: He and Zhu, 2017, based on Peking University data

Central SOEs

Local SOEs

Non-SOEs

investment in Africa. Whereas investments by private firms and entrepreneurial local government SOEs are an important factor in the economic and trade relations between China and Africa (Wang, 2007), central government SOEs must comply with the Government of China's diplomatic and trade policies. Consequently, the investment motives of Chinese private enterprises in Africa are more market-oriented than those of SOEs.

In 2014, all Chinese provinces were source regions of Chinese FDI into Africa except for the autonomous region of Tibet. During 2003-2014, in addition to 620 central government SOEs, many local government enterprises invested in Africa (see Figure 5). After the central government SOEs, China's developed coastal region became the largest source of Chinese FDI in Africa (see Figure 6).

By 2014, Chinese capital had entered 52 African countries. Algeria, Chad, the Democratic Republic of the Congo, Egypt, Ethiopia, Ghana, Kenya, Mauritius, Mozambique, Nigeria, South Africa, Sudan, Tanzania, Uganda, Zambia and Zimbabwe accounted for the lion's share of the FDI flows and stocks (see Figures 6 and 7). The share of FDI into Algeria increased dramatically from 3.3% in 2003 to 20.8% in 2014, due to the end of its civil war and the subsequent need for infrastructure development and other investments. China's FDI flows into Zambia also

increased over this period. Chinese investments there ranged from mining interests in Zambia's copper belt to investments in agriculture, manufacturing and tourism. Southern Africa ranked the first in terms of China's FDI stocks in 2003 and 2014, followed by Western and Northern Africa.

There were more than 100 Chinese enterprises in Angola, Egypt, Ethiopia, Ghana, Kenya, Nigeria, South Africa, Tanzania and Zambia. Chinese central government SOEs tended to locate in Angola, Ethiopia, Nigeria, South Africa, Tanzania, and Zambia. Among them, Zambia ranked the highest with 36 Chinese central government SOEs investing in it, followed by South Africa with 35. In 2014, China's local government SOEs and non-SOEs were concentrated in Ethiopia, Nigeria, Tanzania and Zambia. For instance, Nigeria was the host country of 237 non-SOEs and 23 local government SOEs. Jiangsu Province is one of the largest trade partners of Nigeria with textile, food processing and footwear local government and non-SOEs investing there. In 2014, Jiangsu established a Small- and Medium-sized Enterprises Development Office in Abuja, Nigeria, to facilitate further development of FDI from Jiangsu province.

Figures 8a and 8b show the main source regions and destination countries/cities of Chinese FDI in Africa. The spatial distribution of both resembles that of China's FDI in Africa in Figure 6. China's developed

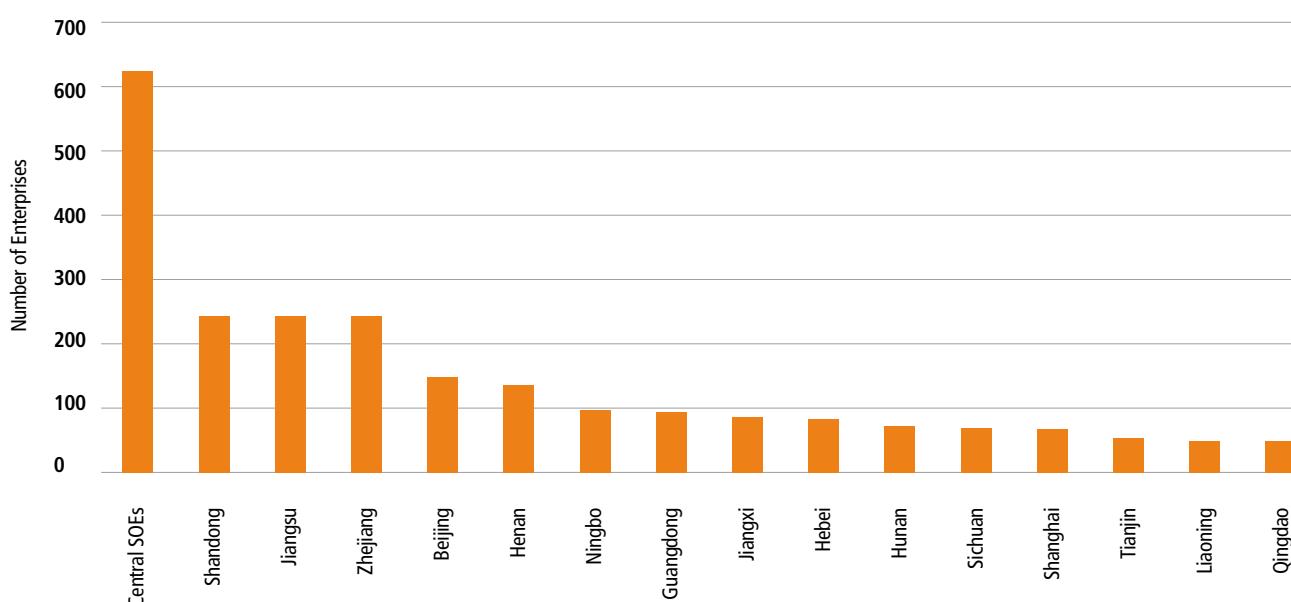
coastal regions pioneered investing in Africa, particularly large cities like Beijing, Hangzhou, Shanghai and Shenzhen. South Africa and Zambia in Southern Africa, Ethiopia in Eastern Africa and Egypt in Northern Africa became the main destination countries of Chinese FDI. In 2015-16, China led greenfield FDI in Africa to a large extent as the result of a contract between the Government of Egypt and China's Fortune Land Development Co. (CFLD) for the development of 5,700 hectares of land east of Cairo (African Development Bank Group, 2017). Some leading African cities in terms of attracting Chinese greenfield FDI include Addis Ababa, Cairo, Cape Town and Johannesburg. Cairo and Johannesburg are also the cities which received the highest value of total greenfield FDI in Africa (Wall et al., 2018).

Industrial dynamics

Figure 9a shows that in 2014, there were 1,503 and 1,099 Chinese enterprises respectively in the secondary and tertiary sectors in Africa, accounting for 55% and 40% of the total. At a more disaggregated level, Chinese enterprises invested mostly in manufacturing (e.g. textiles, construction,

mining equipment, manufacturing and mineral processing); geological exploration and development; infrastructure; import and export trading; and retailing (Figure 9b). Chinese enterprises, notably central government SOEs, focused their investments on geological exploration and development, especially in the petroleum and nonferrous metals sectors, in line with the Government of China's policy consideration of domestic energy security. Petroleum imports accounted for 34% of China's domestic consumption in 2001 and increased to around 60% in 2015. Consequently, energy security has become a crucial target of Chinese outward FDI flows. Chinese enterprises, particularly SOEs, must comply with this. Furthermore, China's energy and resources acquisition is often tied to African infrastructure construction projects. Chinese enterprises provide funding and expertise for infrastructure development in specific African countries with a view to promoting political stability and improving the living standards in those countries, as well as putting in place the infrastructure to facilitate the export of primary resources. For example, the Addis Ababa-Adama Expressway, with a total length of 78 kilometres, was designed and constructed by China

Figure 5. Source regions of China's FDI into Africa with more than 50 investing enterprises (2003-2014)



Source: He and Zhu, 2017, based on Peking University data

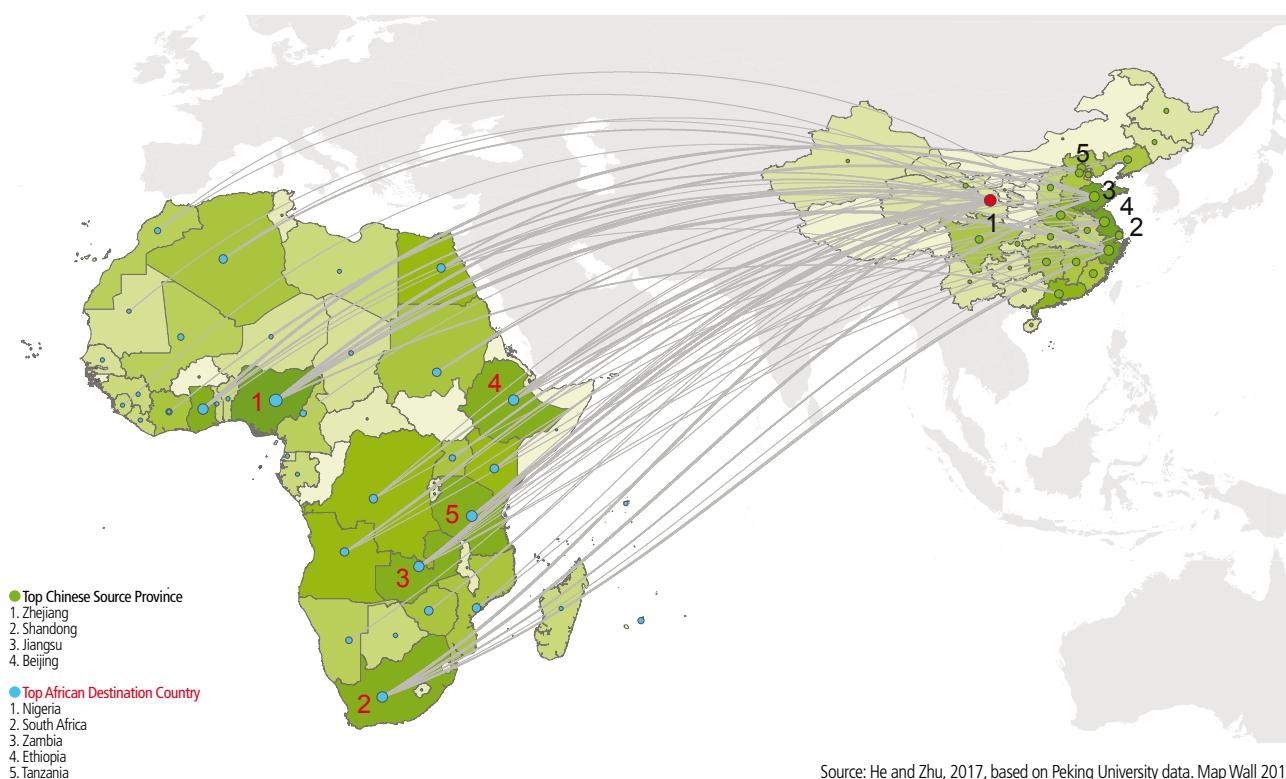
Communications Construction. This expressway is the first in Ethiopia and the first with such scale and quality in Eastern Africa. Some consider foreign resource exploitation contracts controversial. New export arrangements with China and India, they argue, do not contribute to Southern African economic development since they do not benefit the local economy and fail to develop vertical industrial integration (UN-Habitat, 2014).

Chinese investments have been concentrated on different economic sectors in different African countries (see Figure 10). In politically stable and relatively developed countries (e.g. Ethiopia and South Africa), Chinese investments concentrated on manufacturing, taking advantage of low production costs and large domestic markets. Many Chinese apparel and footwear firms chose to manufacture in Ethiopia's Eastern Industry Zone in Dukem, 37 kilometres south of the capital Addis Ababa, providing cheap and high-quality products for both the Ethiopian and the international markets. Chinese small- and medium-sized enterprises avoided less developed African countries with low levels of political

stability and small domestic markets (e.g. Zambia and the DR of Congo). Only SOEs were able to tap into such countries doing business mainly in geological exploration and development and some infrastructure and construction investment. Finally, Chinese capital was new in countries like Algeria and Kenya where Chinese investors tended to start with commercial services to familiarize themselves with the local business environments.

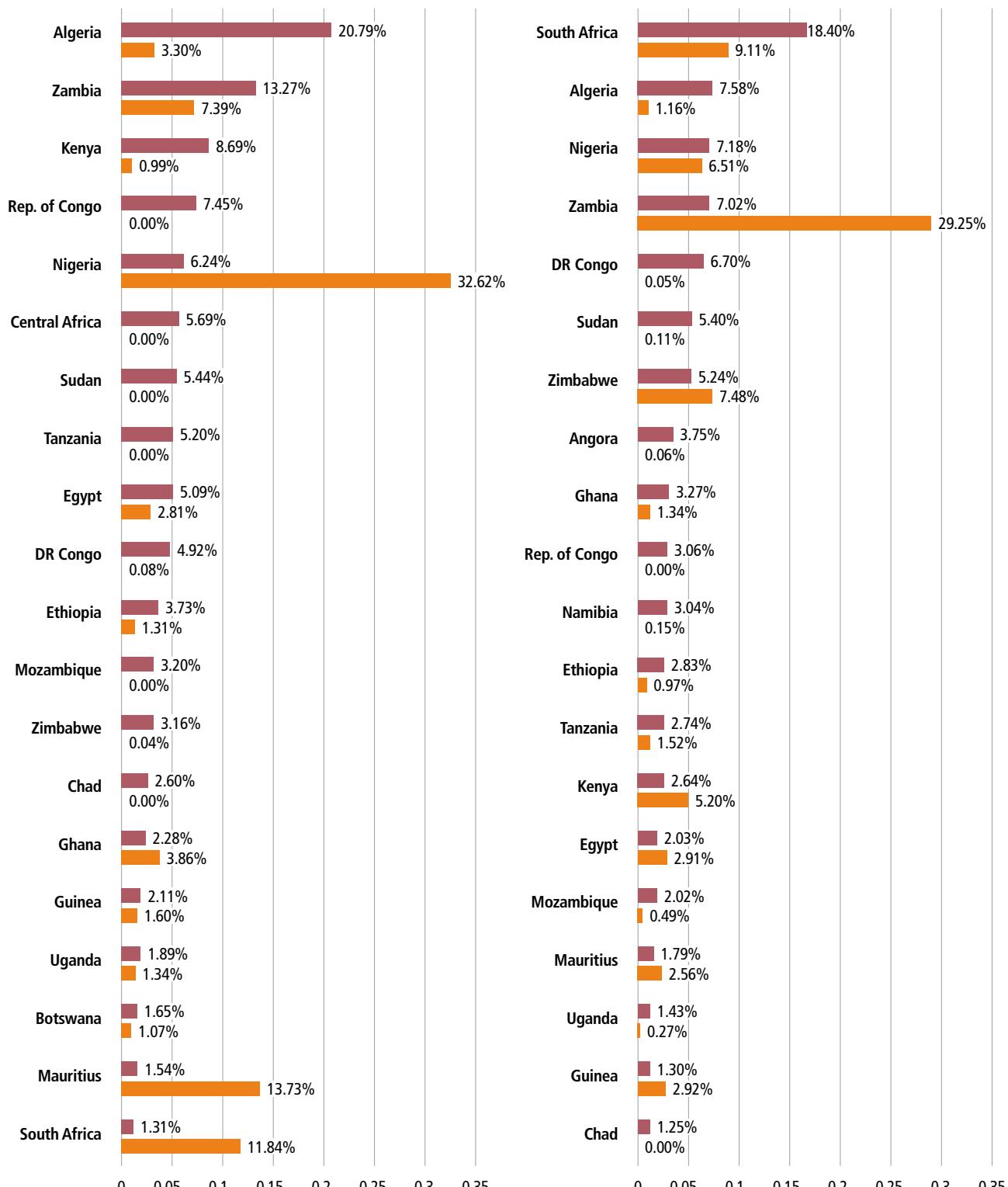
During 2003-2014, 1,698 Chinese parent companies established 2,738 subsidiaries in Africa. Figure 11 shows the linkages between parent companies in China and their subsidiaries in Africa in manufacturing, construction, geological exploration and development, import and export trade and wholesale and retail trade. Most of the 856 manufacturing parent companies invested in manufacturing, although some subsidiaries were also established in downstream and upstream sectors as commercial services and import/export trading to support the manufacturing activities. The dominance of manufacturing indicates that Chinese FDI is mainly market-oriented and searching for production at low-cost locations.

Figure 6. Chinese FDI into Africa: Source regions and destination countries (2003-2014)



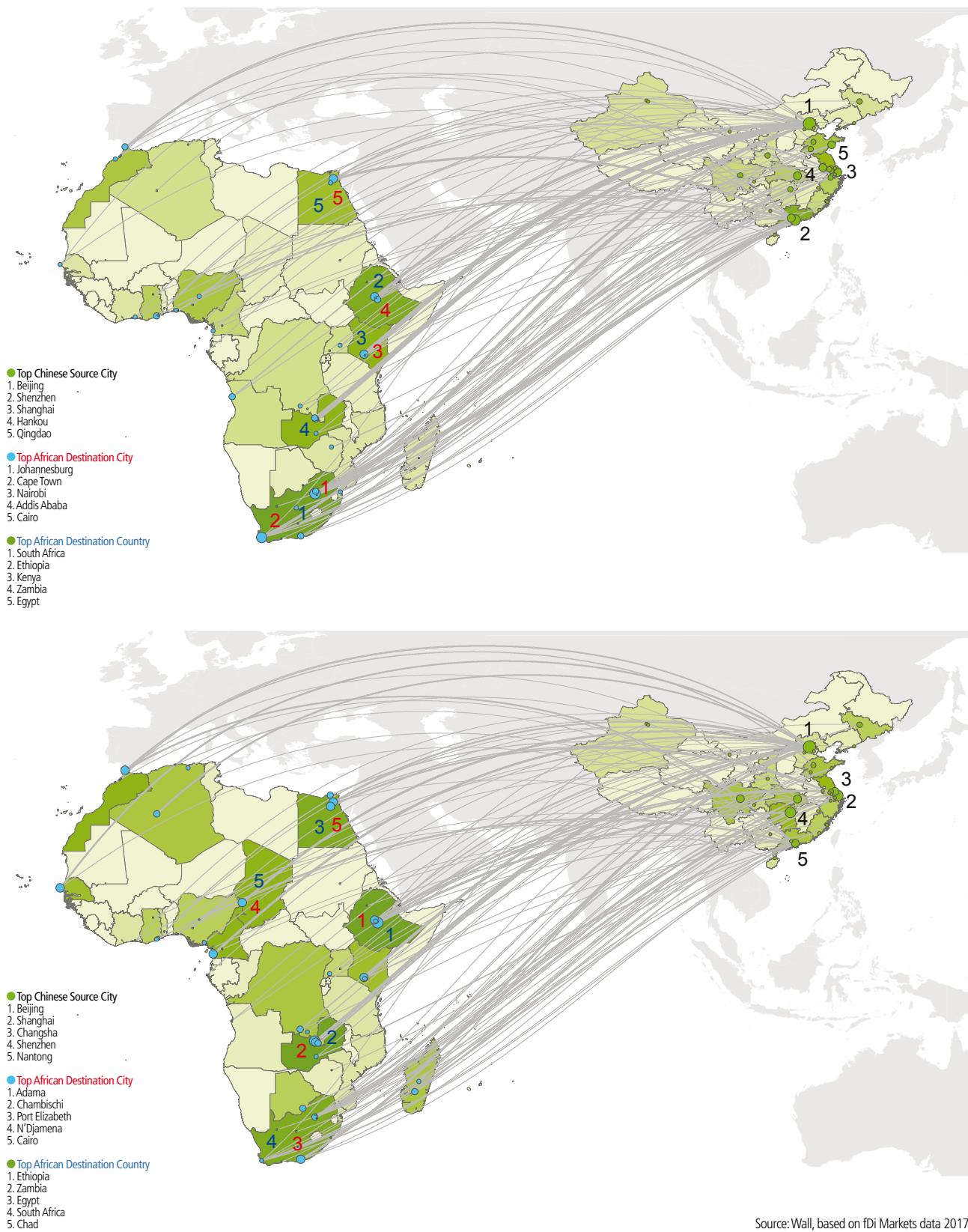
Source: He and Zhu, 2017, based on Peking University data. Map Wall 2017

Figure 7. Top 20 Africa destinations of China's FDI flows (a) and stocks (b)

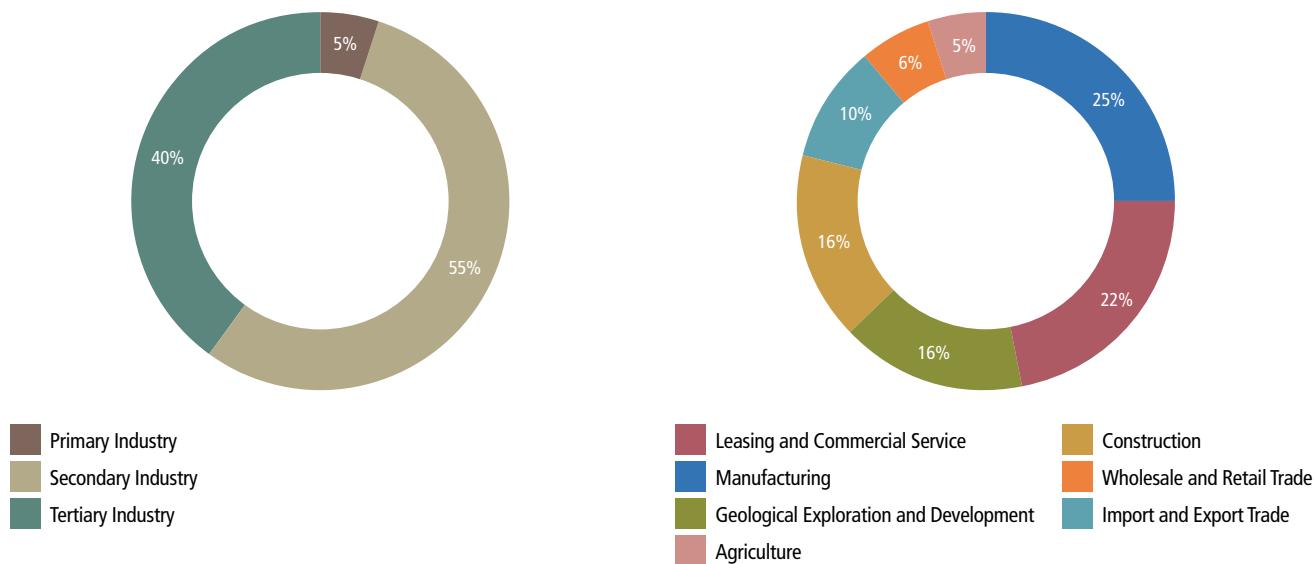


Source: He and Zhu, 2017, based on Peking University data

Figure 8. Count (a) and value (b) of Chinese Greenfield FDI into Africa



Source: Wall, based on fDi Markets data 2017

Figure 9a. and b. Industrial composition of China's outward FDI into Africa, 2014

Source: He and Zhu, 2017, based on Peking University data

The parent companies of construction and mining enterprises in Africa were, by and large, involved in the same sectors in China but they also diversified. For instance, construction parent companies owned 155 commercial service subsidiaries to help them build up connections with African and global customers, collect market information and provide managerial services.

As a relative latecomer in Africa, Chinese capital tends to choose underinvested, relatively less stable countries to avoid competition with investors from the advanced economies

Determinants of China's FDI into Africa

The following research focuses on all countries in Africa and employs the TOBIT model since there is no Chinese FDI in some African countries. Variables and their definitions are shown in Table 1. Statistical results in Table 1 indicate that Chinese FDI tends to enter countries with lower levels of political stability. This finding runs counter to the risk-aversion argument proposed by conventional FDI theory that often considers political instability an unfavourable determinant.

There are a number of reasons why Chinese firms do not necessarily behave as conventional FDI theory would predict. Firstly, SOEs may not be profit-maximisers if guided by Chinese central government political and diplomatic considerations. For instance, as noted above, in 1993, China became a net petroleum importer. After 2003, China surpassed Japan to become the second in the world in terms

of petroleum consumption after the USA, and most of China's petroleum consumption must be met by imports. Energy security has therefore become a crucial target of Chinese outward FDI. Chinese enterprises, particularly SOEs, sometimes had to enter countries with lower levels of political stability if the latter could offer abundant resources.

Secondly, African countries with higher levels of political stability have often already attracted a large number of foreign investors, particularly from advanced economies. As a relative latecomer in Africa, Chinese capital tends to choose underinvested, relatively less stable countries to avoid competition with investors from the advanced economies. Angola is a case in point. The country has been plagued by civil wars for decades. Chinese investments in Angola have been linked to infrastructure projects to assist in Angolan reconstruction needs after the civil war in 2002.

Thirdly, there may also be long-term considerations anticipating future high returns and seeking to occupy a clear, unique and advantageous position in the market before many competitors pour in. For example, Huawei has located one of its eight global innovation centres in Lagos and invested USD6 million in the city. Chinese small- and medium-sized enterprises also manufacture consumer goods for the Nigerian people, accounting for 90% of Nigeria's total domestic consumption.

Fourthly, in relatively unstable countries, the bargaining power of the Government of China and investors may be stronger vis-à-vis the governments in countries that attract only modest amounts of investment. Chinese firms may take advantage of government backing so that the real risks to a particular investor could be much lower than it appears. For instance, Shanda Aluminum Company was established in Newcastle, South Africa with the help of the Government of Shanghai. The Shanghai Commission of Commerce organized a visit to South Africa to collect market information and meet with local authorities beforehand to facilitate the establishment of Shanda.

Fifthly, some Chinese firms, particularly small private firms, may not have the funds and resources to obtain sufficient information. Since they may not be as familiar with the business environment in some African countries, investment decisions may, therefore, be made with insufficient attention to the actual associated risks.

Lastly, political stability indicators are calculated from the viewpoint of advanced economies' investors and may not necessarily reflect the risk perception by firms from emerging economies like China.

Furthermore, Chinese capital prefers democratic countries since additional transaction costs may be demanded in countries with low levels of democracy due to issues like corruption. Existing studies on the locational determinants emphasize the relationship between well- and poorly designed institutions, on the one hand, and FDI, on the other, but often fail to recognize that the institution in the host country is often neither monolithic nor homogeneous. An FDI host country's institutions may be seen as well designed in terms of political stability while scoring poorly in terms of democracy. The correlation index between those two institutional factors is only 0.23. Countries like Zambia have been assigned high scores on democracy but low scores on political stability.

Table 1.
The determinants of Chinese FDI in Africa

Variables	2003-2014	2003-2007	2008-2014
Political stability index	--	--	--
Democracy index	++	+++	0+
Resource-seeking motives	0+	++	0+
Market-seeking motives	+++	+++	+++
Asset-seeking motives	0+	0+	0-
Economic openness	0+	0-	0-
Economic stability	0-	0+	0+
Political proximity	+++	+++	+++
Economic proximity	+++	+++	++
Geographic proximity	0+	0+	0-

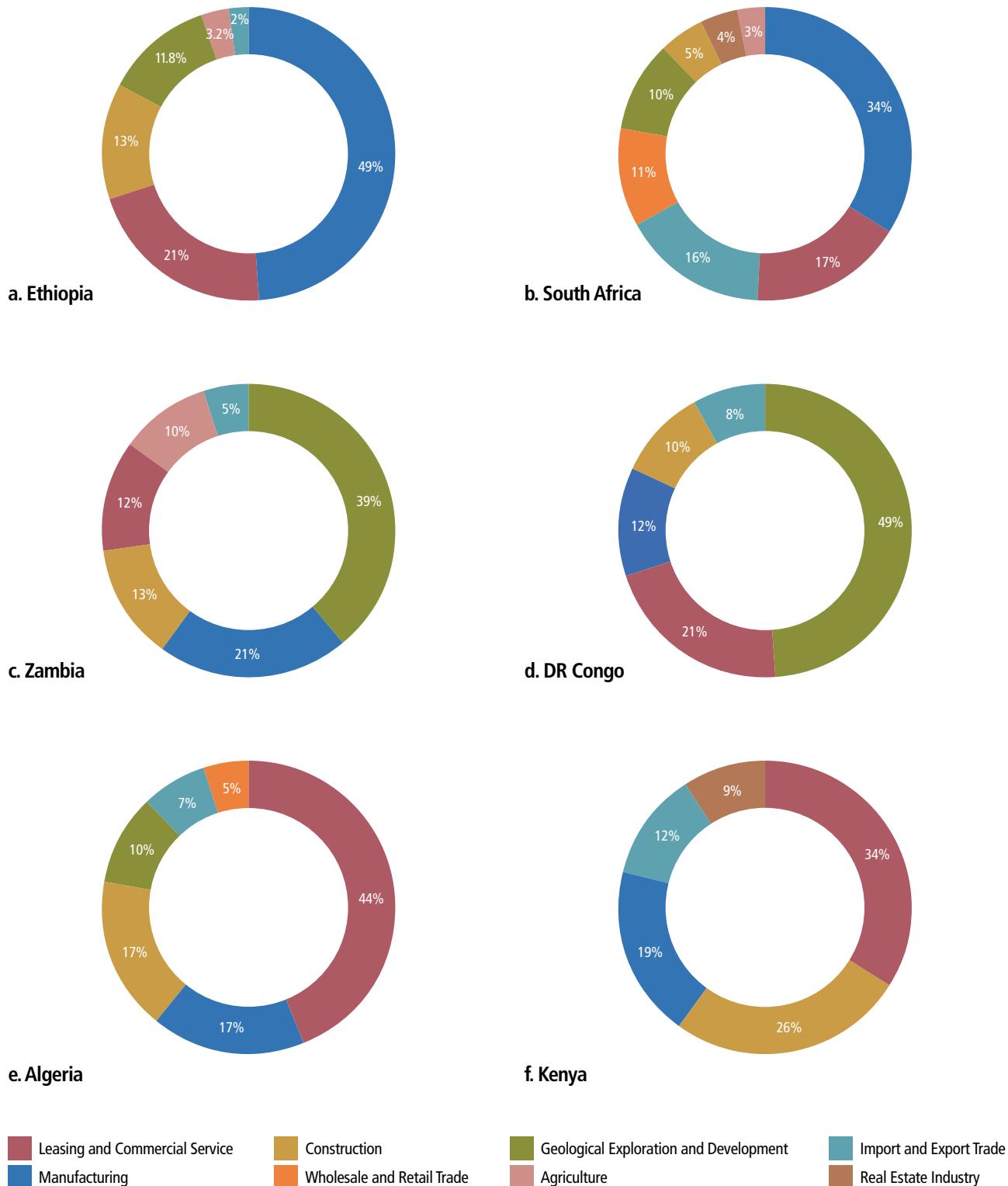
Source: He and Zhu, 2017, based on Peking University data

+++ Very significant and positive relation
++ More significant and positive relation
+ Significant and positive relation
- Very significant and negative relation
-- More significant and negative relation
- Significant and negative relation
0+ Not significant but positive relation
0- Not significant but negative relation

Chinese outward FDI flows were attracted to countries with abundant natural resources from 2003 to 2007 because China increasingly relied on imported resources to meet its growing domestic consumption. However, Chinese investors in Africa became less resource-seeking in the 2008-2014 period, as shown by the not statistically significant resource-seeking variable in the 2008-2014 model (see Table 1). One possible explanation is that, even though Chinese SOEs must comply with the central government's policy on achieving energy security, the typically more profit-seeking than resource-seeking entrepreneurial non-SOEs sought to tap into new markets. Since the FDI share of non-SOEs increased from 2008 to 2014, overall Chinese FDI in Africa became less resource-seeking. The coefficient of the market-seeking variable is significant and positive, confirming that Chinese FDI gradually became more market than resource oriented.

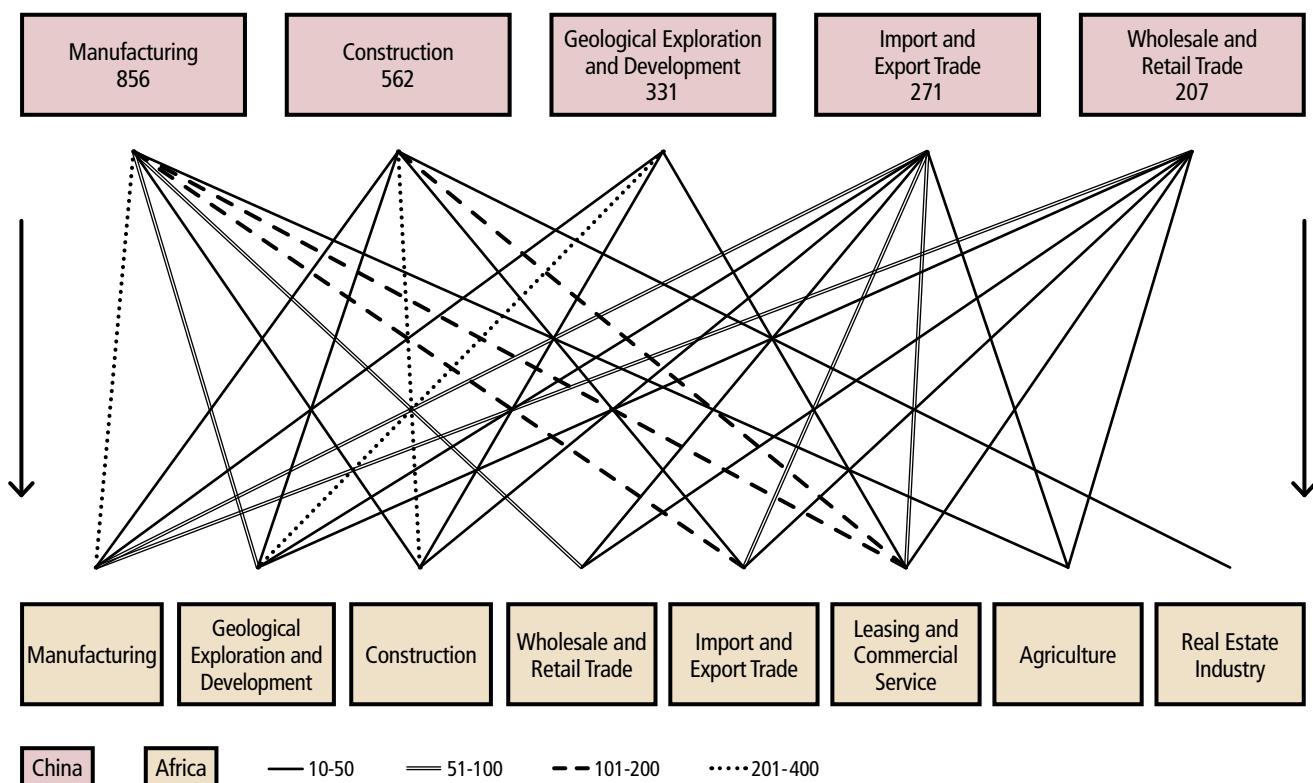
For instance, Lifan Motors began business in Ethiopia in 2007. A few years later, it established a subsidiary, Yangfan Motors in Addis Ababa. Recently, it has moved into a new plant in the Eastern Industry Zone in Dukem, 37 kilometres outside the capital, Addis Ababa. The new plant employs in excess of 150 workers, 97% of which are Ethiopians. So far, Lifan Motors has sold about 3,000 cars in Ethiopia. In 2016, 821 cars were purchased by Ethiopia's government as

Figure 10. China's sectors (2014), (a) Ethiopia, (b) South Africa, (c) Zambia, (d) DR Congo, (e) Algeria and (f) Kenya



Source: He and Zhu, 2017, based on Peking University data

Figure 11. Parent companies in China and their subsidiaries in Africa (2014)



Source: He and Zhu, 2017, based on Peking University data

taxis. Lifan Motors' business in Ethiopia is obviously more a long-term investment seeking to take advantage of the large domestic market and profit rather than being driven by resources and energy. In addition, the asset-seeking variable is not significant, indicating that Chinese FDI was not attracted to Africa for new, advanced technologies.

Each diplomatic event between China and the host country is assigned a score. A weighted sum value is calculated to measure the political proximity (i.e. the strength of political connections). African countries with close political connections to China are likely to receive more Chinese FDI since such host countries tend to provide a more favourable business environment for Chinese FDI. The Chinese government can be quite involved in Chinese enterprises going global. For instance, Shanghai municipal government has a close relationship with South Africa. To assist Shanghai Light Industry Equipment Company (SLIEC) with its investment in South Africa, the Shanghai Commission of

Commerce sent a delegation to South Africa in 1997 to collect market information and meet with local authorities. A comprehensive report was compiled, on which basis SLIEC invested USD1.82 million in Newcastle, South Africa, and established a subsidiary, the Shanda Aluminum Company in 1998. Enterprises often collect information about countries by trading first to evaluate the feasibility and profitability of investing there. Finally, since the geographical distances between China and all African countries are quite similar, the number of flights between China and a specific host country is used as a proxy of geographical proximity between those two countries. However, it plays an insignificant role in our story.

Impact of China's FDI

China is still relatively new as an investor in Africa and investments only started to take off in 2003. The scale of China's FDI flows into Africa is still quite small, accounting for 2.6% of the global total. Given

the limited time and scale, the overall impact of Chinese FDI in Africa cannot yet be fully assessed and should therefore not be overstated in either a positive or negative way. Nevertheless, the following section attempts to provide a preliminary assessment of the impacts of Chinese FDI in Africa.

Economic impacts

Through FDI, Chinese firms have helped establish complete industrial chains in Africa. For instance, the China National Petroleum Corporation founded an entire gasoline industry in Sudan, including exploration, production and refining capacity, transportation and sales capabilities. Since resource-based industries are often at the core of other sectors of the economy, Chinese FDI in these industries serves as a catalyst for broader economic development if local authorities have a developmental attitude.

Chinese enterprises have also established a large quantity of infrastructure in Africa, including roads, railways, ports, dams and bridges. According to the 2010 World Bank report *Africa's Infrastructure: A Time for Transformation*, African infrastructure networks lag behind those of other developing regions, and infrastructure deficiencies emerge as a main constraint to doing business, depressing enterprise productivity by about 40%. The chapter on infrastructure in Part B of the online version of this report also concludes that road integration can have a significant impact on FDI attraction. Cities that are well connected with their larger surrounding regions through road infrastructure tend to attract more FDI compared to those with more limited connections with their immediate regions. The cost of addressing Africa's infrastructure shortfalls is estimated at around USD93 billion annually, more than twice the current investment by African countries. Consequently, Chinese FDI is often accompanied by infrastructure construction and improvements that will contribute to Africa's long-term development.

In 2010, USD50.7 billion was invested in African infrastructure, USD9 billion of which originated from China. This included, in 2013, Sino Hydro, a Chinese construction company that helped Ghana build a 400-megawatt hydroelectric dam on the Black Volta River that increased the installed electricity generation capacity in Ghana by 22%. Another example is the South Outer Ring Expressway Project south of Abuja, Nigeria. This project also included ancillary work, earthwork, drainage work, road construction, bridge

construction, city lights, water systems, and electricity and communications facilities. These investments have helped to address Abuja's infrastructure needs, improved the business environment and stimulated long-term economic development.

A feature that distinguishes Chinese FDI from investments from advanced economies is how investments and infrastructure construction have been interconnected with development assistance from China. It is worth noting that China's development assistance is nothing new. It was common even in the 1970s, as China saw African countries as third-world "comrades". Nowadays, development assistance is offered by China to establish a long-term, mutually beneficial relationship with African countries, albeit that some criticize China for using development assistance as a means to enter Africa with its FDI. Infrastructure construction is only one part of the

Cities that are well-connected with their larger surrounding regions through road infrastructure tend to attract more FDI compared to those with more limited connections with their immediate regions

China-Africa economic, political and trade cooperation. For instance, China's investments in Angola have been primarily linked to natural resources, on the one hand, and infrastructure projects on the other to assist in Angolan reconstruction needs after the civil war in 2002. The Chinese government provided massive low-interest or interest-free loans for infrastructure construction. Chinese enterprises collaborated with the Angolan government and enterprises to build infrastructure through the provision of equipment and other products imported from China. The Angolan government repaid the debt with natural resources. This is the "Angola Model" whereby trade, development assistance, investments and infrastructure constructions are intertwined with one another.

Similarly, in DR of Congo where China Railway and other Chinese companies built roads, expressways, public housing, hospitals and other facilities in Bandundu, Katanga and Kinshasa. In exchange, the government of the DR of Congo allowed China

Railway to establish and run a copper-cobalt mine in partnership with a local company using imported equipment from China. From 1956 to 2005, China provided USD44 billion in low-interest/interest-free loans for 900 infrastructure projects in African countries. In 2009, 45.7% of China's foreign aid funds were channelled to Africa, 61% of which were for infrastructure improvements. Up until 2009, China had helped Africa build more than 2,000 km of railways, more than 3,000 km of highways, 52 stadiums, and 11 bridges, besides ports, airports, water supply facilities, and telecommunication infrastructure.

Chinese enterprises often settle for lower earnings than those from other countries investing in Africa since Chinese enterprises often operate through joint-ventures sharing the profits with their African partners. For instance, in 2006, the Chinese state-owned metallurgical and mineral resources developer and processor Sinosteel Corporation reached an agreement with Samancor Corporation, South Africa's largest chrome ore owner to jointly exploit chrome

Chinese enterprises often settle for lower earnings than those from other countries investing in Africa since Chinese enterprises often operate through joint-ventures sharing the profits with their African partners

resources in South Africa. Sinosteel and Samancor each held a 50% stake in the joint venture. The deal between these two was a win-win project with Sinosteel acquiring natural resources and South Africa receiving technology, managerial and marketing know-how, funds and long-term access to the Chinese market. This has contributed to economic growth and increased bilateral trade for South Africa. It is argued, at times, that such collaborative operations between Chinese SOEs and large African firms are controversial because the benefits of these joint-ventures are reaped mostly by local authorities and corporate elites rather than the African people. That may be so, but SOEs are not the sole Chinese investors in Africa.

China's non-SOEs are more active and involved in retailing, trade and low-tech primary processing industries than SOEs, and thus have much broader

and deeper impacts on local economic development in Africa. Unlike SOEs focusing on infrastructure and natural resources, Chinese non-SOEs tend to diversify more in Africa and often engage in several sectors. Since non-SOEs are often more engaged in local economic networks they provide more opportunities to develop human capital and create jobs in the host countries. Non-SOEs also manufacture and sell cheap consumer goods, reducing the living expenses of African people.

The success of the Angola Model is closely tied to Angolan government policy: natural resources in exchange for infrastructure and equipment. However, whether local economic development and the African people can benefit from Chinese FDI is highly dependent on institutional factors and how the host country authorities choose to make use of the money. When some African governments (e.g. Nigeria) decided to move from "natural resources for infrastructure and equipment" to "natural resources for cash", things changed. While the former approach is normally beneficial to local development and the people as a whole, the latter one may only favour the country's political and economic elite. The inflow of cash may be used to finance opulent lifestyles among powerful elites rather than being reinvested in the economy. Therefore, improving transparency within society and the political system is an important matter facing African countries.

In other words, Chinese capital does not enter Africa to merely exploit its resources and then leave. Rather, most Chinese investments in Africa are long-term. As some have pointed out, China has a clear strategy for Africa, but Africa has no strategy for China. A way forward is for African countries to seek more economic diversity rather than relying solely on Chinese investments. They should more systematically learn from FDI-providing firms, whether Chinese or from other countries and, most importantly, increase governance, transparency and accountability, especially in natural resources industries.

Social and environmental impacts

Job creation is important to all FDI host countries, economically and socially. Employment generation is important for contemporary Africa with around 60% of its population under the age of 24. In 2014, the correlation index between Chinese FDI stocks and employment increments in African countries was around 0.47, and that between Chinese outward FDI stocks and the increase in the number of enterprises 0.42. Statistically, Chinese FDI into

Africa is positively related to job creation. Chinese investments in labour-intensive industries (e.g. primary processing, apparel, retailing and footwear) have been particularly important in employment generation. In Ethiopia, Ghana, Kenya, Nigeria, Tanzania and Zambia, more than half of the foreign investments in manufacturing originated from China and have resulted in significant employment growth in those countries. Infrastructure construction demands a large number of unskilled or semi-skilled workers. Every USD1 billion of Chinese investment in infrastructure, for instance, has generated around 110,000 jobs in Egypt, Morocco and Tunisia.

In the energy and natural resources industry, Chinese investors have been moving upward and downward along the value chain to include more labour-intensive sectors. For instance, in 2006, as the DR of Congo's government banned exports of cobalt ore, the Ningbo Xinglong cobalt mining companies

that previously exploited this ore established cobalt-processing factories in the country and thus generated more jobs.

Some have argued that Chinese enterprises tend to employ imported labour from China because of their skills, docility and hard-working diligence besides cultural proximity, and that, therefore, it does not contribute to job creation in Africa as expected (Shen, 2013). Chinese FDI into Africa is indeed accompanied by labour imports. However, through recent research based on 35 firm interviews in Africa and China, Shen (2013) concluded that the general ratio of Chinese versus local hiring in the manufacturing sector is around 1:15. In addition, the ratio has been changing in favour of local hiring as more local workers get trained. Shen found no evidence of excessive importation of Chinese labour. For instance, besides the earlier mentioned example of automobile manufacturing in Ethiopia, the



Zambia ranks as one of the highest for FDI flows from China's state-owned enterprises

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Countries like Angola which have been blighted by civil war attract investors from China to assist with the rebuilding of infrastructure

Chinese SOEs building the Northern and Eastern Ring Road sections in Nairobi employed 1,400 workers, a mere 50 of whom were Chinese.

A critical claim is that local workers only get low- or semi-skilled operational jobs, while the high-skilled and managerial jobs are restricted to Chinese employees. It is also alleged that job training and technology transfer are disappointing because workforce training, although common, is mostly limited to low-skilled levels. Although this type of training is important as many new recruits do need to start from the very basics, it is true that most critical technical and managerial positions are held by Chinese staff, due partly to

cultural and language differences (Shen, 2013). Another reason is that Chinese non-SOEs are often family firms, in which the managerial positions are mostly occupied by family members.

The location and quality of job creation is more important for long-term economic growth in Africa. Recently, Chinese investors have become increasingly focused on job training and technology transfer. A good example is the Mombasa-Nairobi Standard Gauge Railway in Kenya with the China Road and Bridge Corporation as the prime contractor. Tracklaying was completed in 2016 and the railway was commissioned in 2017. The project employed 25,000 Kenyans, more



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than 16,000 of whom have been trained since the start of their careers in the project and 2,700 Kenyans have become qualified lab technicians, surveyors or mechanics. Moreover, the company worked with Kenyan training institutions to establish training centres for railway technology and operations. The project thus brought to Kenya not only the railway hardware but also advanced knowledge and skills for the construction and operation of the railway system.

A third issue for Chinese FDI is related to the working condition in Chinese-established factories in Africa. Although working conditions may vary across such factories, they are in general not satisfactory.

Some factories were reported to force employees to work unpaid overtime and/or retaliate against unionized employees seeking better treatment. Most African countries' labour laws are based on those of their former colonizers and are often stricter than China's labour laws. There is, indeed, a need for Chinese companies to better understand and respect local laws and regulations concerning labour rights as well as workers' cultures and religions.

Finally, some Chinese firms pay insufficient attention to corporate social responsibility (CSR) and environmental protection. Chinese companies, especially central government SOEs, have often faced relatively little pressure to act in a transparent or environmentally responsible way back home. They tended to replicate this in Africa at first and faced the fall out. In Ghana, the Bui National Park will be

The location and quality of job creation is more important for long-term economic growth in Africa. Recently, Chinese investors have indeed become increasingly focused on job training and technology transfer

significantly affected by the Bui Dam since 21% of the park will be submerged. The dam could also change the flow regime of the river and harm downstream habitats. Furthermore, the Bui dam project requires the forced relocation of 1,216 people. So as not to slow down the construction of the dam, the Bui Power Authority has opted for a quick resettlement process, generating some negative impacts on local communities. As indicated by this example, the reputation of Chinese companies operating in Africa is mixed. While they have won respect for their investments and efficiency, they have also faced challenges when and where the focus on expedience and profit overlooked the interests of local communities.

Recently, however, Chinese firms have started changing their attitude towards corporate and social responsibility (CSR) and environmental matters to protect their brand reputation in Africa. For instance, Sinohydro invested USD900 million in 30 projects in Angola including hydropower, hospitals, schools and

public transportation. It has trained and employed over 8,200 local workers. In 2011, it sponsored the establishment of water facilities for schools in Nairobi when Kenya had its worst drought in six decades. The Mombasa–Nairobi Standard Gauge Railway, which passes through the Tsavo National Park at ground level with consequential risk of collisions with wildlife built six viaducts at regular intervals to allow for the safe passage of wildlife. The remainder of the railway section through the park is elevated on high embankments to further reduce collision risks.

In 2015, the China International Trust and Investment Corporation (CITIC) collaborated with International Finance Corporation (IFC) and announced the launch of a USD300 million investment platform to develop affordable housing and provide 30,000 African homes over the next five years. It started in Kenya, Nigeria and Rwanda and next expanded to other Sub-Saharan countries. Experiencing the highest rate of urbanization in the world with approximately 40,000 people migrating to cities every day, Africa faces serious urban housing shortages. Kenya's shortage, for example, is estimated at 2 million units. Nigeria needs 17 million more units. UN-Habitat reports that in countries like Nigeria and Sudan over half of the urban population lives in slums, partly because few local developers possess the technical and financial strength to construct large-scale low-cost projects but also because the low-cost housing market is less profitable than that for higher income groups.

The 30,000 new homes planned by IFC and CITIC could be an important contribution. CITIC was selected since it has recently completed a 200,000-unit housing program in Kilamba Kaxi, a new town in Angola. In a mere 54 months, CITIC built 710 residential buildings in addition to 41 schools and kindergartens, 246 shops, a power substation, water purifying and sewage treatment plants, and roads and traffic lights. Nonetheless, the new town is almost a ghost city with the majority of the apartments unsold, as their price is prohibitive to most Angolans. Such ill-conceived projects reveal that Chinese firms should engage more with local authorities and civil society to better understand and respond to local needs.

Despite noteworthy recent achievements by Chinese FDI into Africa important challenges remain: (1) the strategic importance of CSR is not always acknowledged both in Chinese headquarters and their subsidiaries in Africa and the CSR department is often marginalized; (2) companies are less motivated

to take on social responsibility when weighted against earning more profits; (3) some Chinese managers are reluctant to engage with civil society, media and local communities and insufficiently observe the importance of the participation of local stakeholders; and (4) some firms tend to invest in countries with lax environmental and social regulations to reduce compliance costs in the short term, but this increases business risks in the longer term.

One possible strategy is for Western countries and China to cooperate in improving the development approach of Chinese FDIs in Africa. Specifically, they could collaborate to enhance Chinese investors' CSR capacity, particularly by providing training to Chinese managers. Chinese investors should be given more involvement in discussions on CSR-related international standards. Cross-country public and private partnerships on project-based cooperation could be an entry point for this.

While some praise China's role in filling financial and technological gaps in Africa, others question the motives behind these Chinese investments and their impacts, and portray China as the new colonizer on the African continent

Conclusions

China's relationship with Africa has changed from one driven by Mao Zedong's ideology that sought to promote and support African countries' anti-colonial movements towards one that is increasingly based on international trade, official aid programmes and, more recently, on Chinese FDI into Africa. The growing level of Chinese FDI into Africa has attracted the world's attention, but viewpoints on these investment flows are starkly polarized. While some praise China's role in filling financial and technological gaps in Africa, others question the motives behind these investments and their impacts, portraying China as the new colonizer on the African continent. This study used recent Chinese outward FDI data to analyse the complexity of Chinese investments in Africa through a micro-, firm-level perspective.



In Ghana, the Bui National Park has been affected by the Chinese-backed construction of the Bui dam which has left the park under water and forced the relocation of communities

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China's FDI in Africa has become more complex and diverse in terms of firm ownership, source and recipient regions and economic sectors. Empirical studies on Chinese FDI into Africa tend to overstress central government SOEs' investments, particularly those in energy and natural resources and infrastructure. Chinese local government SOEs and non-SOEs are rarely influenced by China's central government policy guidance and play an increasingly important investment source role, especially in manufacturing.

China's investment activities in Africa are still in their early stages and it is therefore difficult to fully comprehend their longer-term impacts. Consequently, Chinese FDI into Africa is becoming more diverse and complex, it is too early to decide whether the overall balance of these investments in African countries is positive or not. On the one hand, referring to Chinese investments in Africa as "neo-colonialism" is not correct as Chinese enterprises have improved the investment environment, promoted people's living standards and

pushed forward long-term local economic development in Africa by investing in infrastructure, introducing new industries and creating employment.

On the other hand, Chinese enterprises have, at times rightfully, been criticized for not adhering to social and environmental matters although Chinese firms appear to be changing their attitude towards CSR and environmental protection, if only to defend their brand image in Africa. In response to the dwindling global demand for Chinese exports after the 2008 financial crisis and the slow-down in its economic growth, China has accelerated its pace of outward investments, particularly through building networks connecting China to Asia, Africa and Europe. This is likely to not only facilitate the global integration of the African economy, but also to push forward infrastructure improvements and economic growth. Chinese FDI flows are therefore expected to play an even more important role in Africa in the foreseeable future.